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GGACGATCA TCTGTCATAT GAAGGACCCA GAAGCATACT CCAAGTCCACTTCT CTGACCTACC GGGTCCTTAG ACCTCACTGA CCTCATGAGG scal maeIII hinfi ٥ asul 0 bsrI L K Ç mnlI ø 0 > mbol! bst11071 bsaJI ۵ H Ŋ > rmal .1

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ACAGACACCA TCTCTCTCCT AATAAGCCCA TTATTCCCCT TAGTGGGAAG GTCCCTTGTT TCCAGCTAGA ACCTCCATCT aluI AGGGTTCGAG ATCACCCTTC CAGGGAACAA TCCCAAGCTC TTCATAAGCC TACCAATGTA GACACGCTCT TCTATTTTAT AAGTATTCGG ATGGTTACAT CTGTGCGAGA AGATAAATA Bapl accI 3801

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## THE THE

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apol tru91 msel

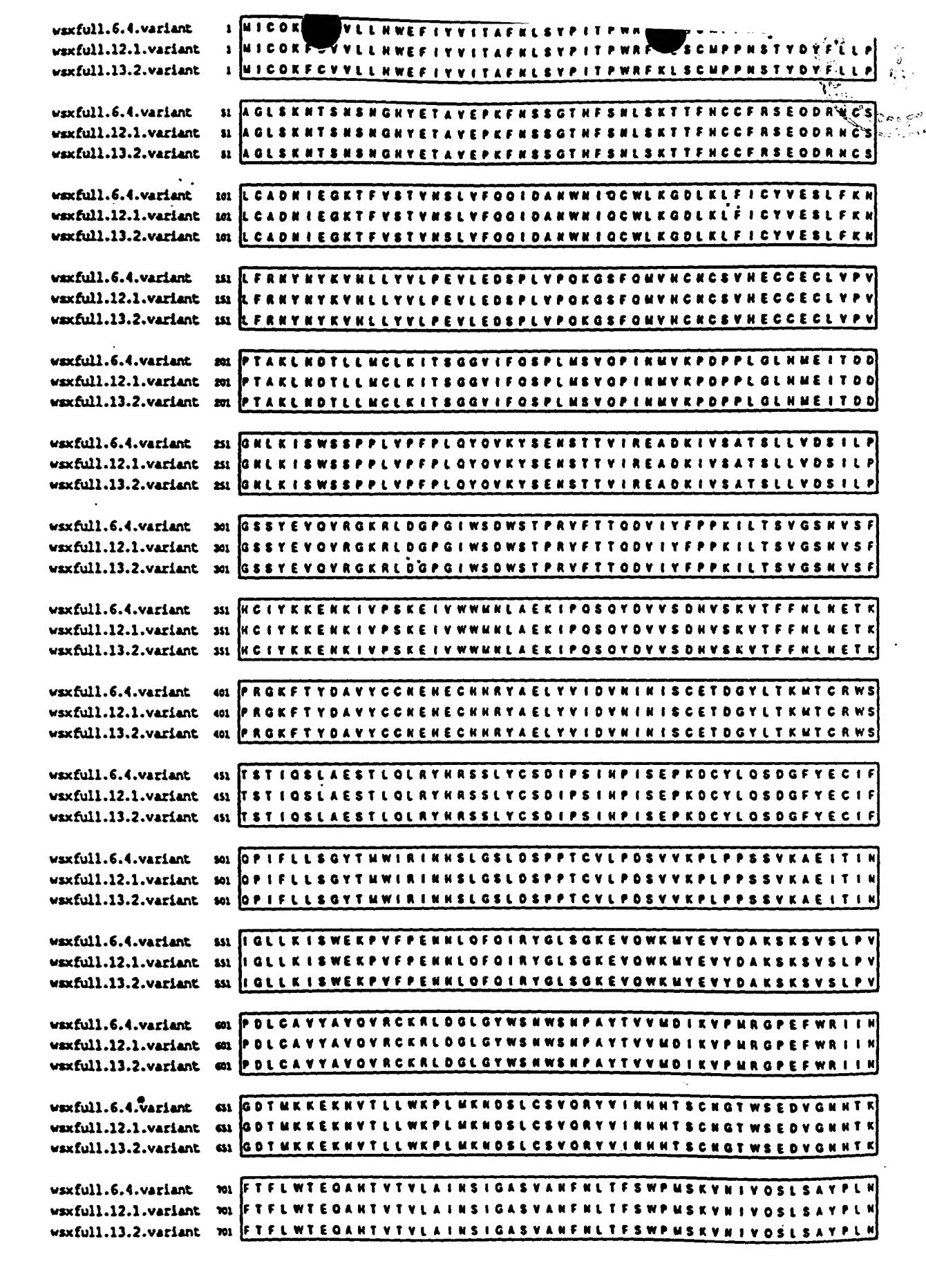
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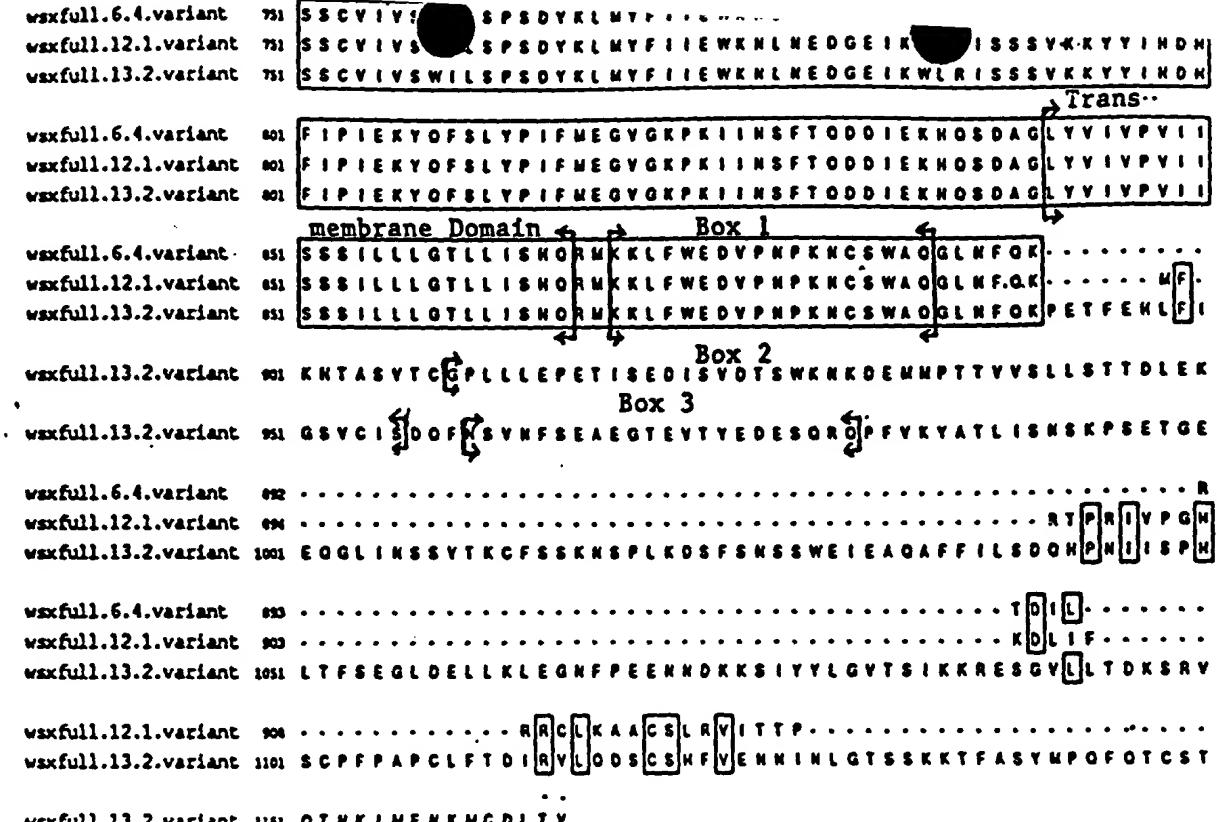
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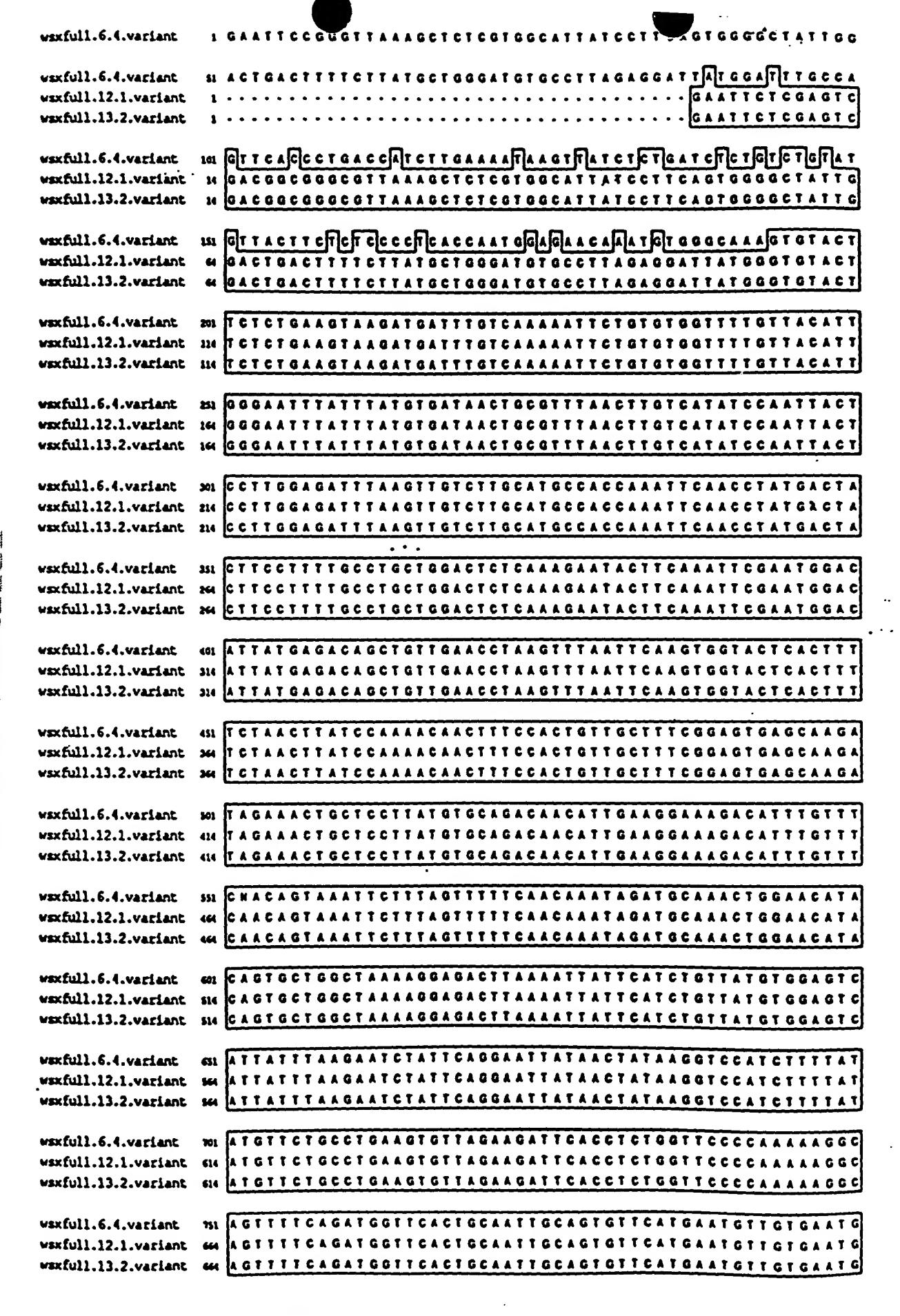
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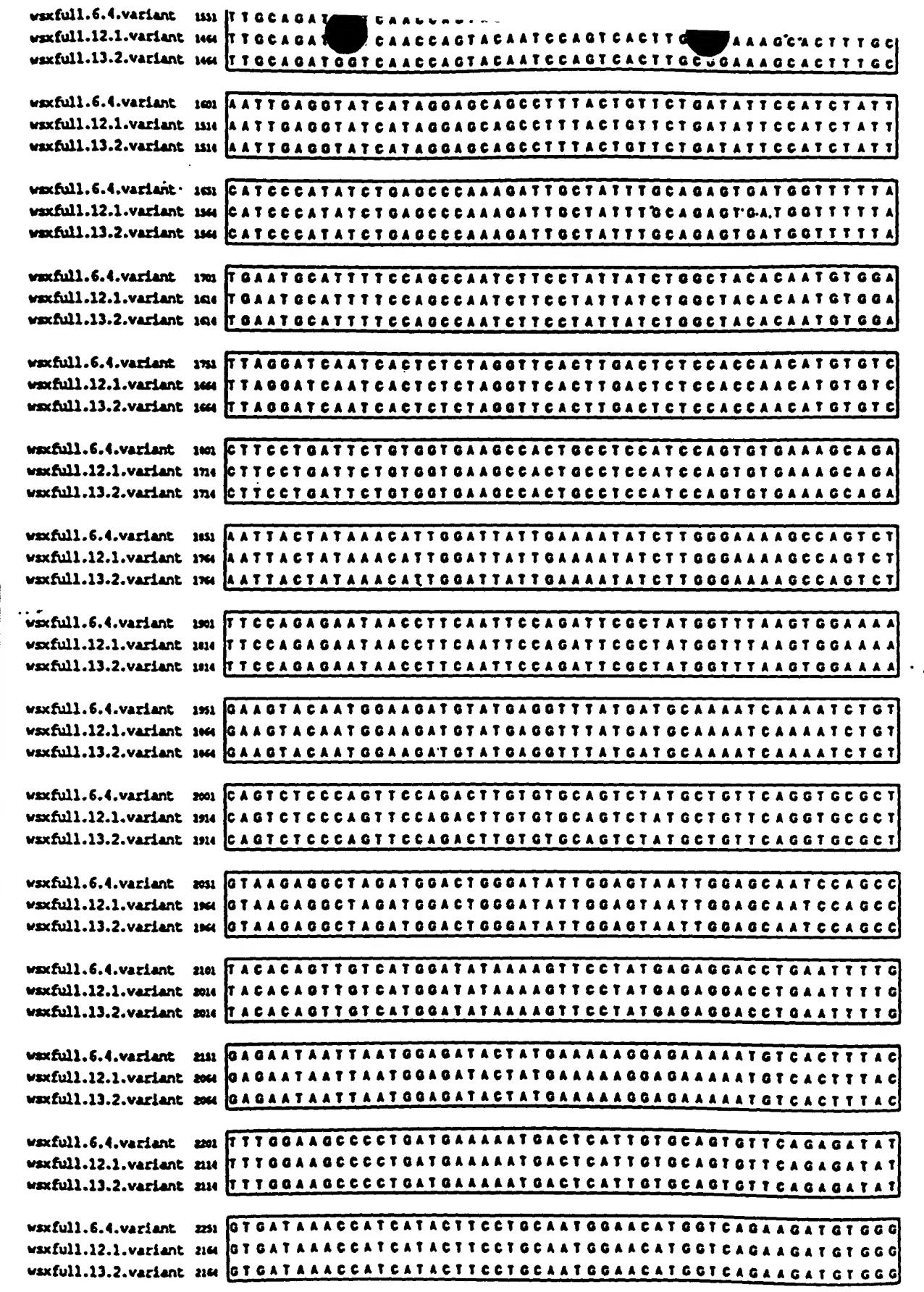


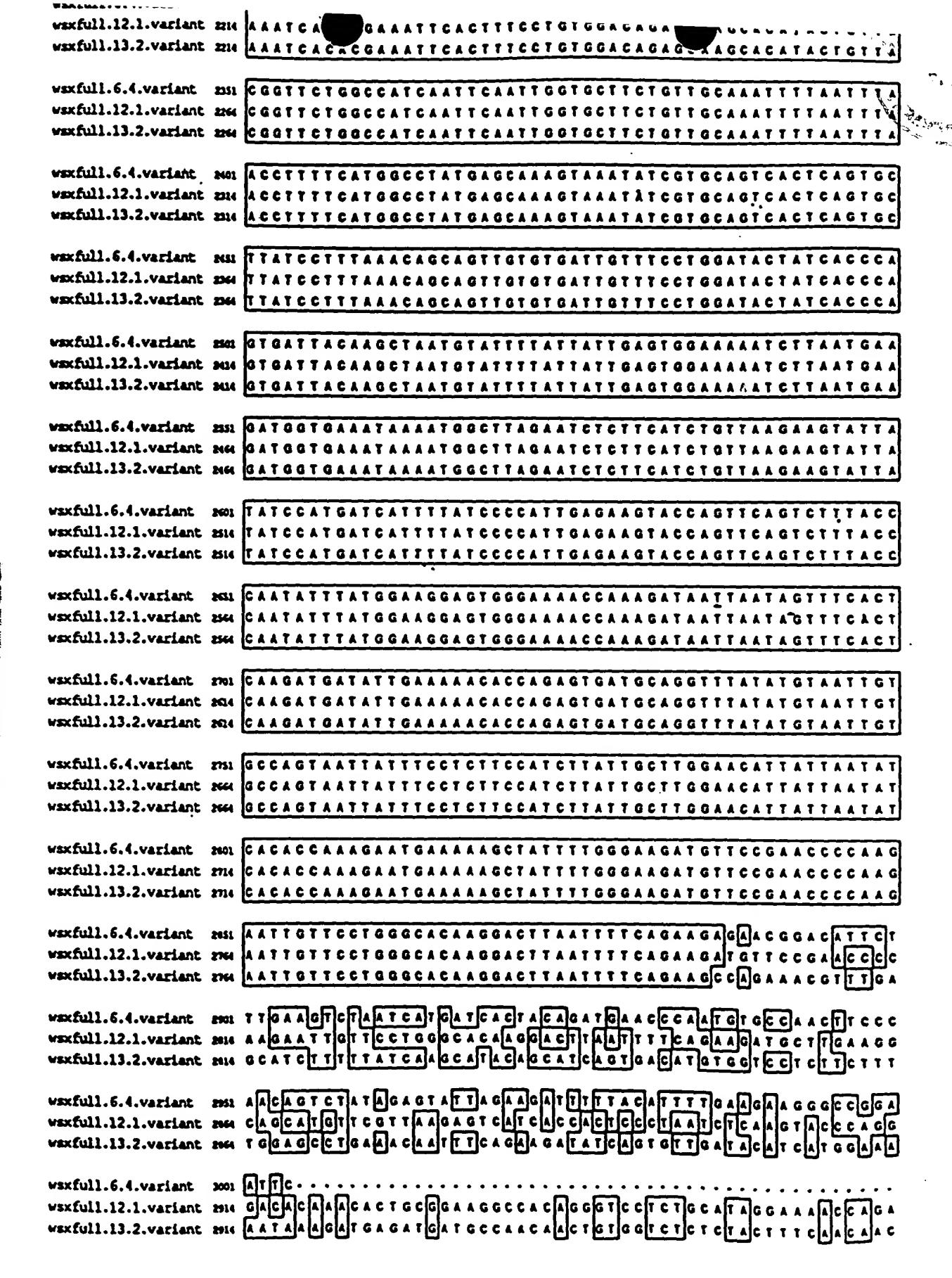


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wsxfull.12.1.variant	THE TETES COT GECAACAGCCAAACT CAACGACACT CT CCTTATGT GTT
wsxfull.13.2.variant	THE TETTETECCT GT GCCAACAGCCAAACT CAACGACACT CT CT TAT GT GT T
wsxfull.6.4.variant	BSS T GAAAAT CACAT CT GGT GGAGTAATTTT C CAGT CACCT CT AAT GT CAGT T
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AGGGTTCTGTTTGTATTAGTGACC TCAACAGTGTTA wexfull.13.2. variant me A G A T C T T G WEXTULL 12.1. VARIANT MIN T GA COCT GC CA A ATIC C C CETTOT GT GAGIAA CA C C C A A GIAAT GAT CA A TAA WEXTULL.13.2. VARIANT 2014 A C T TET C T G A G G C T G A G G G T A C T A T G A G G G G G A A G C C A G WEXTULL 13.2. Verlant son AGACH ACCCTTTGTTHA ATTACCCACGCTGATCAGCAACTCTAAACCAAG wexfull.13.2. variant sum TCTCTAGCAAAATTCTCCGGTTGAAGGATTCTTTCTCTAATAGCTCATGG wexfull.13.2. variant 2214 GAGATAGAGGCCCAGGCATTTTTTTATATTATCAGATCAGCATCCCAACAT WEXFULL.13.2. VARIANT 284 AATTTCACCACACCTCACATTCTCAGAAGGATTGGATGAACTTTTGAAAT wexfull.13.2.variant me TTAGGGGTCACCTCAATCAAAAAGAGAGAGAGAGTGGTGTGCTTTTGACTGA waxfull.13.2.variant au CAAGTCAAGGGTATCGTGCCCATTCCCAGCCCCCTGTTTATTCACGGACA wexfull.13.2. variant MM TCAGAGTTCTCCAGGACAGTTGCTCACACTTTGTAGAAAATAATATCAAC WEXFULL.13.2. Variant 3514 TTAGGAACTTCTAGTAAGAAGACTTTTTGCATCTTACATGCCTCAATTCCA WEXFULL.13.2. Variant 394 AACTT GTT GT ACT CAGACT CATAAGAT CAT GGAAAACAAGAT GT GT GACC WEXFULL 13.2. VARIANT MIL TAACT GT GT AATTT CACT GAAGAAACCTT CAGATTT GT GT TATAAT GG GT wsxfull.13.2.variant see AATATAAAGTGTAATAGATTATAGTTGTGGGGTGGGAGAGAGAAAAGAAAC WEXFULL.13.2. Variant 3764 CTCTCTTAGTAACATAGACAAAAAATTTGAGAAAGCCTTCATAAGCCTAC vexfull.13.2.verient am caatgtagacacgctcttctattttattcccaagctctagtgggaaggtc WSXfull.13.2. Variant 344 CCTTGTTTCCAGCTAGAAATAAGCCCAACAGACACCATCTTTTGTGAGAT WEXFULL.13.2. VARIANT 3964 TACCAACACACACACACACACACACACTTCTTAACACATGTCCTTGTGTGTTT WEXFULL.13.2. Variant 4014 TGAGAGTATATTATGTATTTATATTTTGTGCTATCAGACTGTAGGATTTG wexfull.13.2.variant 4064 % A G T A G G A C T T T C C T A A A T G T T T A A G A T A A C A G A A T T C

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wsxfull.13.2.variant
au.wsx.ecd
wsxfull.13.2.variant
ru.vex.ecd
WEXTULL.13.2. VARIANT 101 L CADNIEGKTF VSTVNSLVFOOIDANWHIOCWLKGDLKLFICT VESLFKN RU.WEX.COL 101 ALTONTEGKTLASVVKASVFROLGVNWOIECWNKGDLTLFICHWEPLPKN
WEXTULL 13.2. VARIANT ISS EFREYNYKYHLLYYLPEYLEDSPLYPOKGSFOWYHCHCSYHECCECLYPY
mi.wsx.ecd
vexfull.13.2.variant 201 PTAKENDTEENCEKITSGGVIFOSPENSVOPINNVKPOPPEGENNEITOD
mu.wsx.ecd
WEXTULL 13.2. VARIANC 251 GHEKISWSSPPLVPFPLQYQVKYSENSTTVIREADKIVSATSLLYDSILP
                250 GHLKIS WOSOT MAPFPL OYOVKYLENS-TIVEREALEIL
m.wsx.ecd
WEXTULL 13.2. VARIANT DO GSSYEVOVRGKRLDGPGIWSDWSTPRVFTTODVIVFPPKILTSVGSHVSF
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wsxfull.13.2.variant as | H C | Y K | K | E N | K
RU. WSX. ecd
WSXfull.13.2. Variant 401 PRGKFTYDAYYCCHEHECHHRYAELYVIDYHINISCETDGYLTKHTCRWS
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mu.wsx.ecd
WEXTUIL 13.2. VARIANT 451 TETIOS LA ESTLOLRY HRIS SLY CISO IPS I HPISEPKOCYLOSOGFYECIF
                449 PST 10S LYGSTYOLRY HRICISLY CPOSPS I HPTSEPKTASYRET AFINNY FS
mi.wsx.ecd
WEXFULL.13.2. VARIANT SOL OF IFILE GYTHWIRINH SLGSLOSPPT CYLPOSYYKPLPPSSYKAE I TIN
                499 SOSFYYLAIOCGFRINHSLGSLDSPPTCYLPDSYYKPLPPSNYKAEITY
au.wsx.ecd
WEXFULL.13.2. VARIANT SSI IGLLKIS WEKPYFPEHHLOFOIRYGLEGKEYOWKMYEYYDAKEKSYSLPV
                 ME TOLLKYSWEKPYFPENNLOFOIRYGLEGKE IOWKI HEVFOAKEKSAS LL
ML. wax.ecd
WEXFULL . 13.2. Variant 601 POLCAYYAVOVRCKRLDGLGYWSHWSHPAYTYVWDIKYPHRGPEFWRIIN
                 599 SOLCAVYVOVRCRRLDGLGYWSHWSSPAYTLYMDVKYPHRGPEFWRKHD
mi.wsx.ecd
WEXTULL 13.2. VARIANC 451 GOT WE KEKNYTLL WEPL WENDSLCS YORY YI WHINTS CHGT WEED YON HIL
                 49 GOVTKKERNYTLLWKPLTKHOSLCSYRRYYVKHRTAHNGTWSEOVGHRTH
FL. W$X.ecd
WEXFULL 13.2. VARIANT TOL FITFLWTEOAHTVTVLAINSIGASVANFRLTFSWPMSKVNIVOSLSAYPLN
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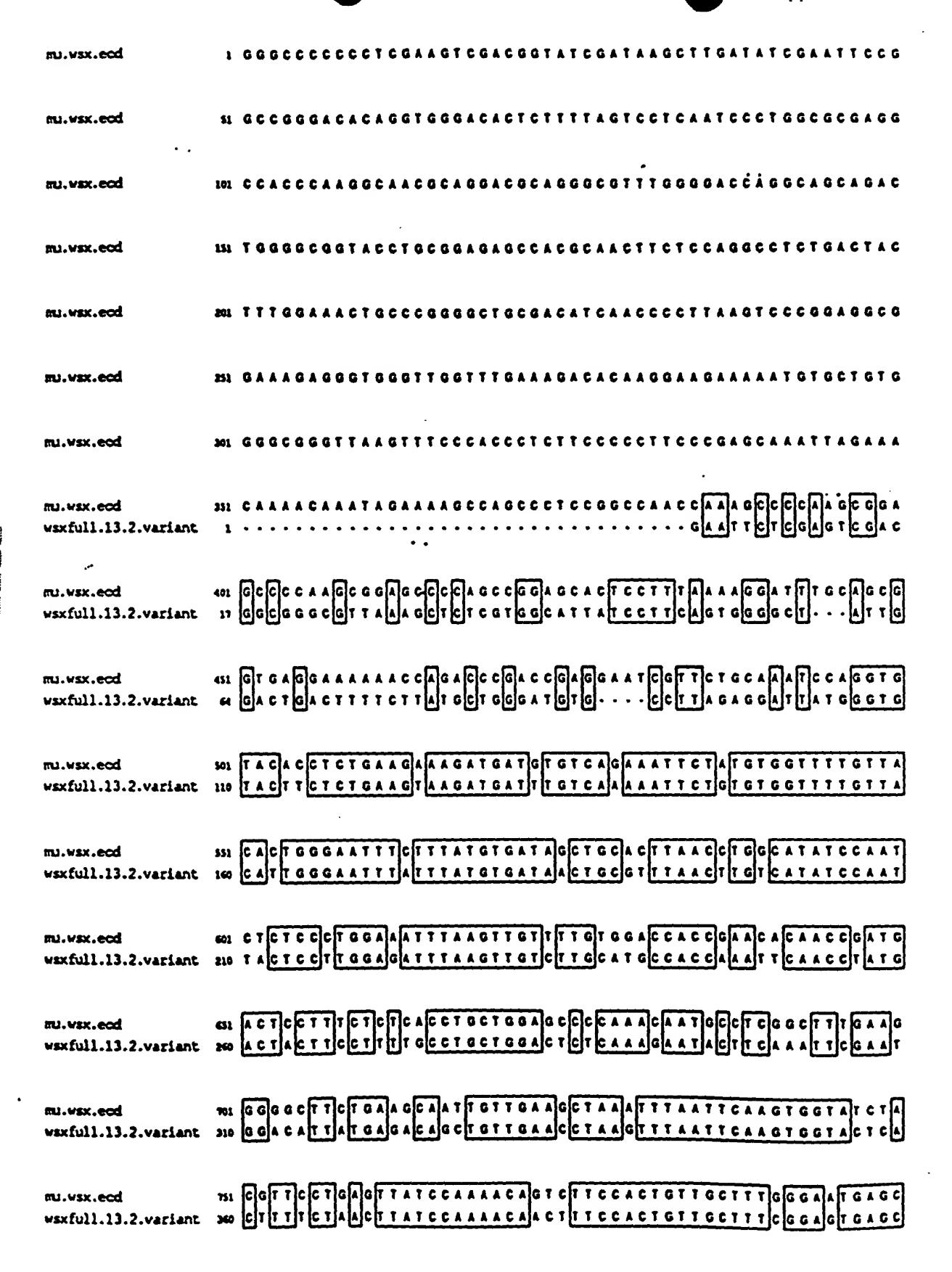
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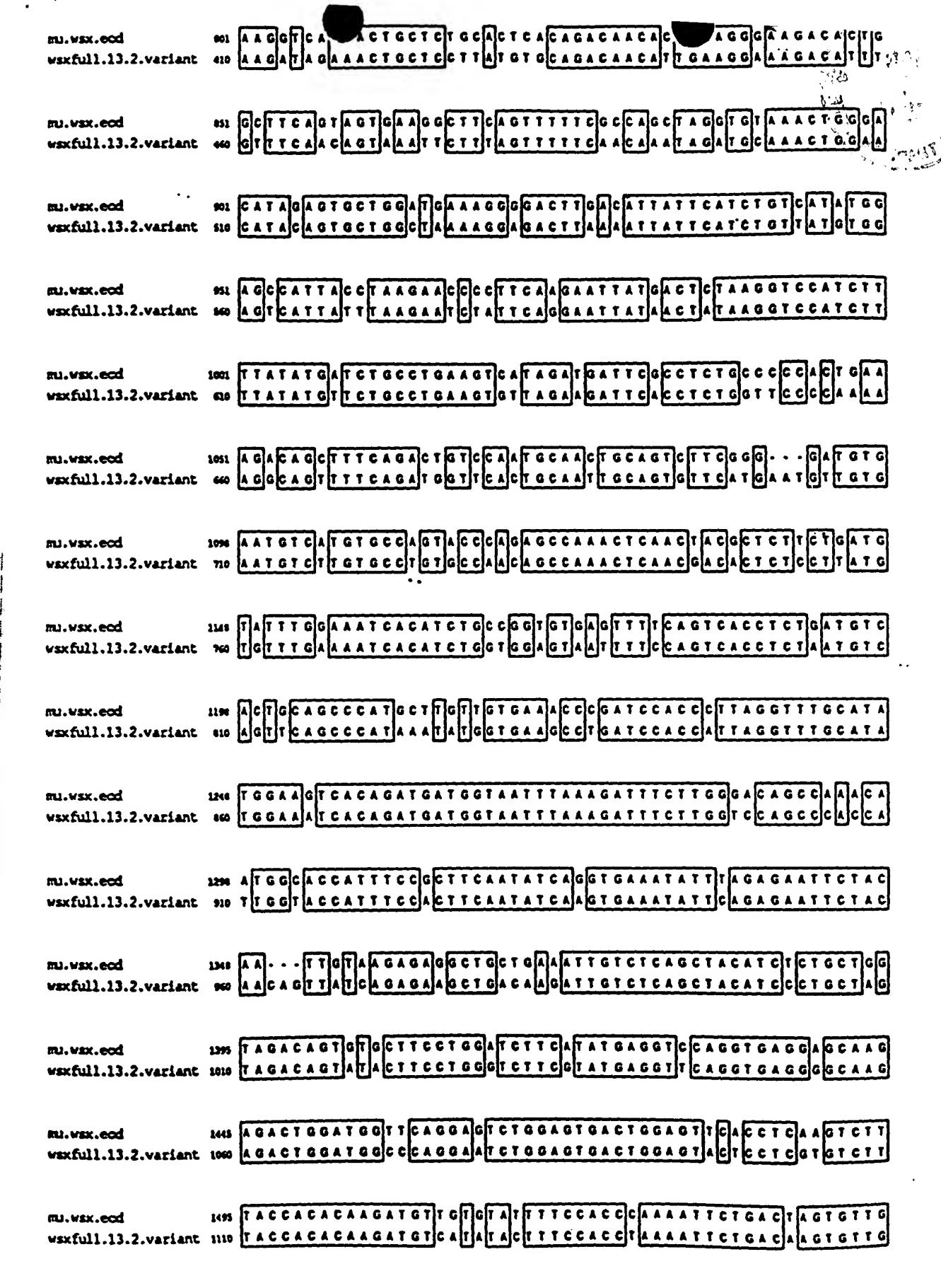
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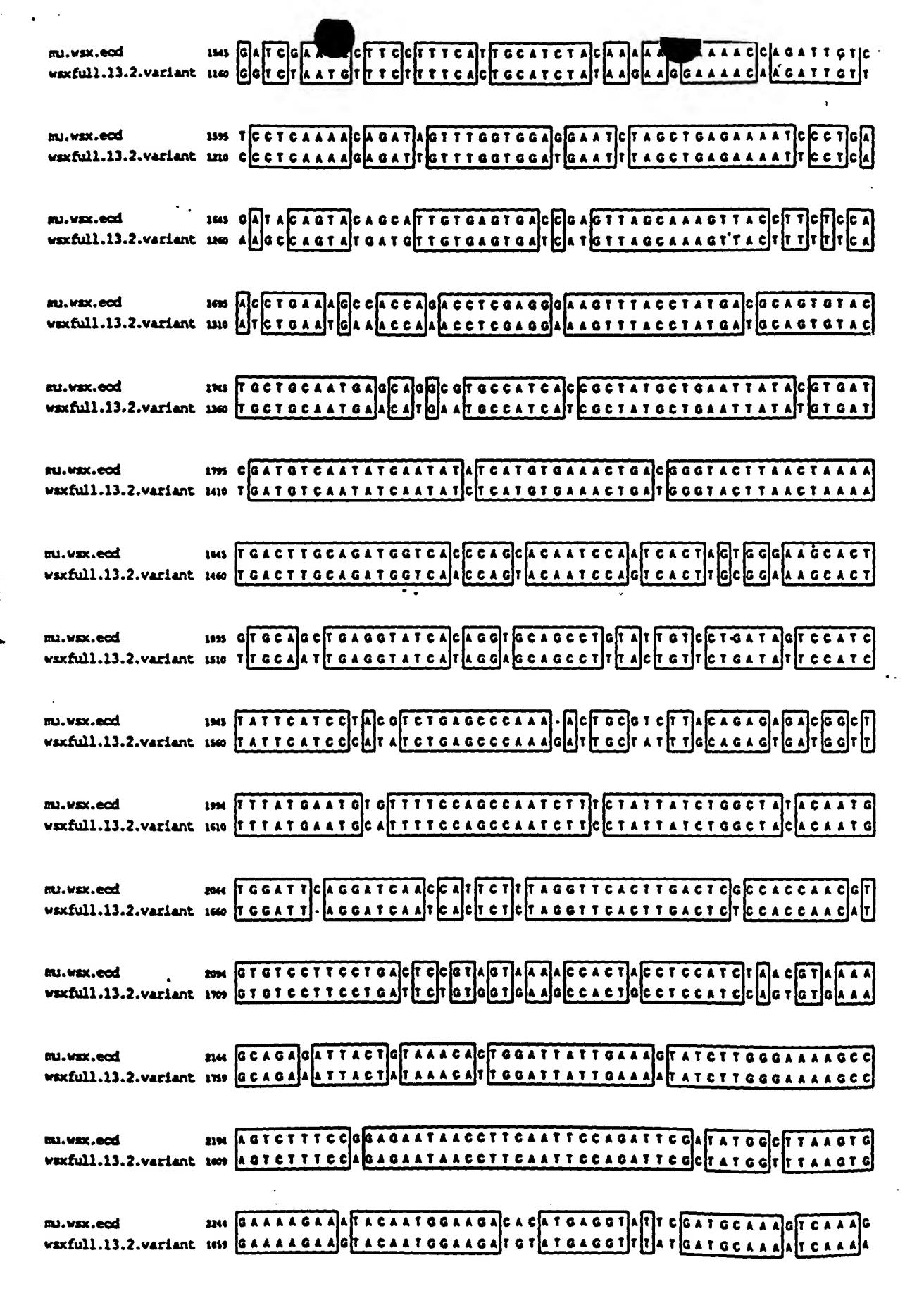
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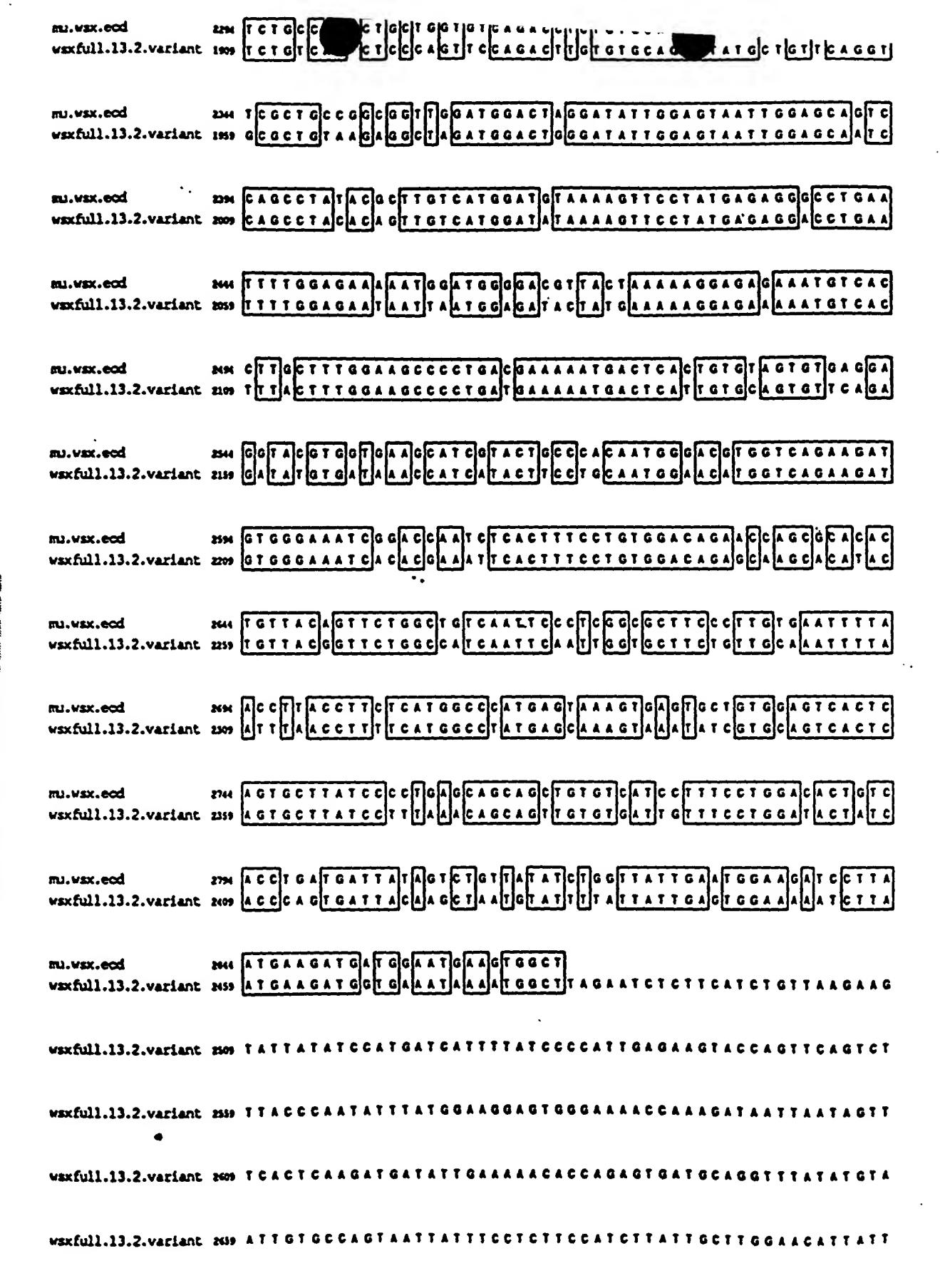
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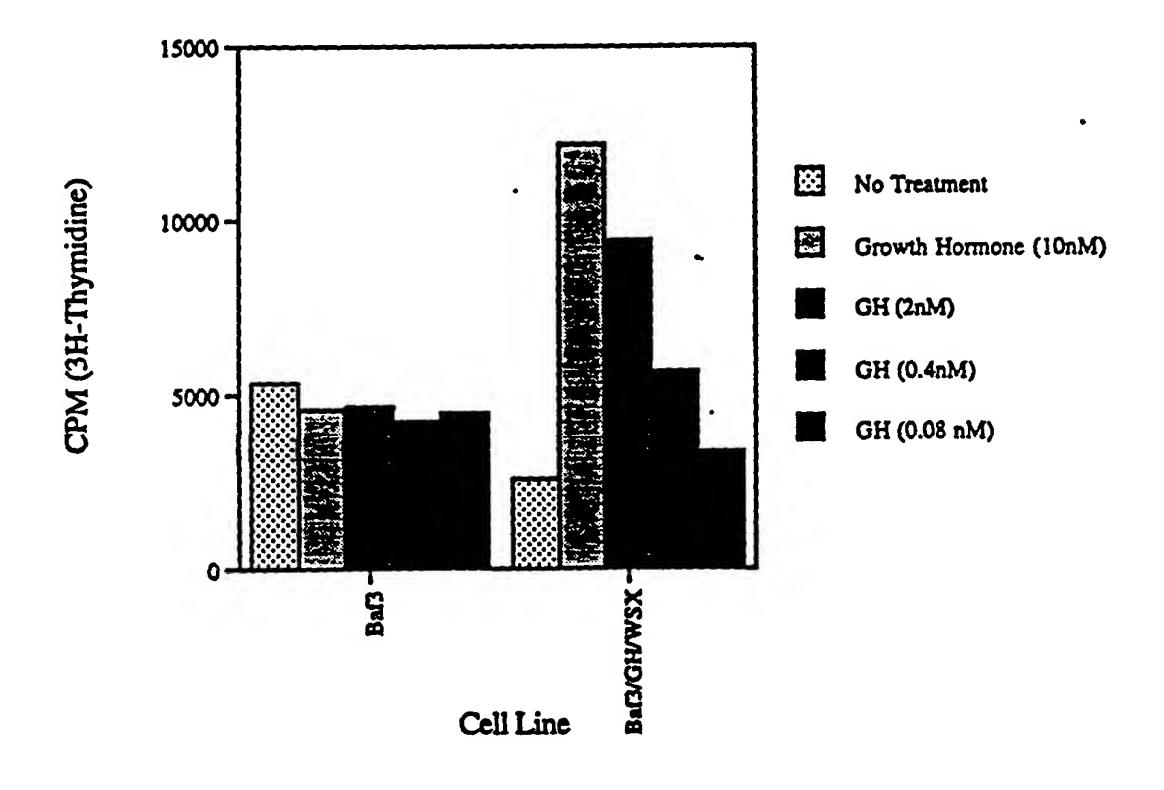


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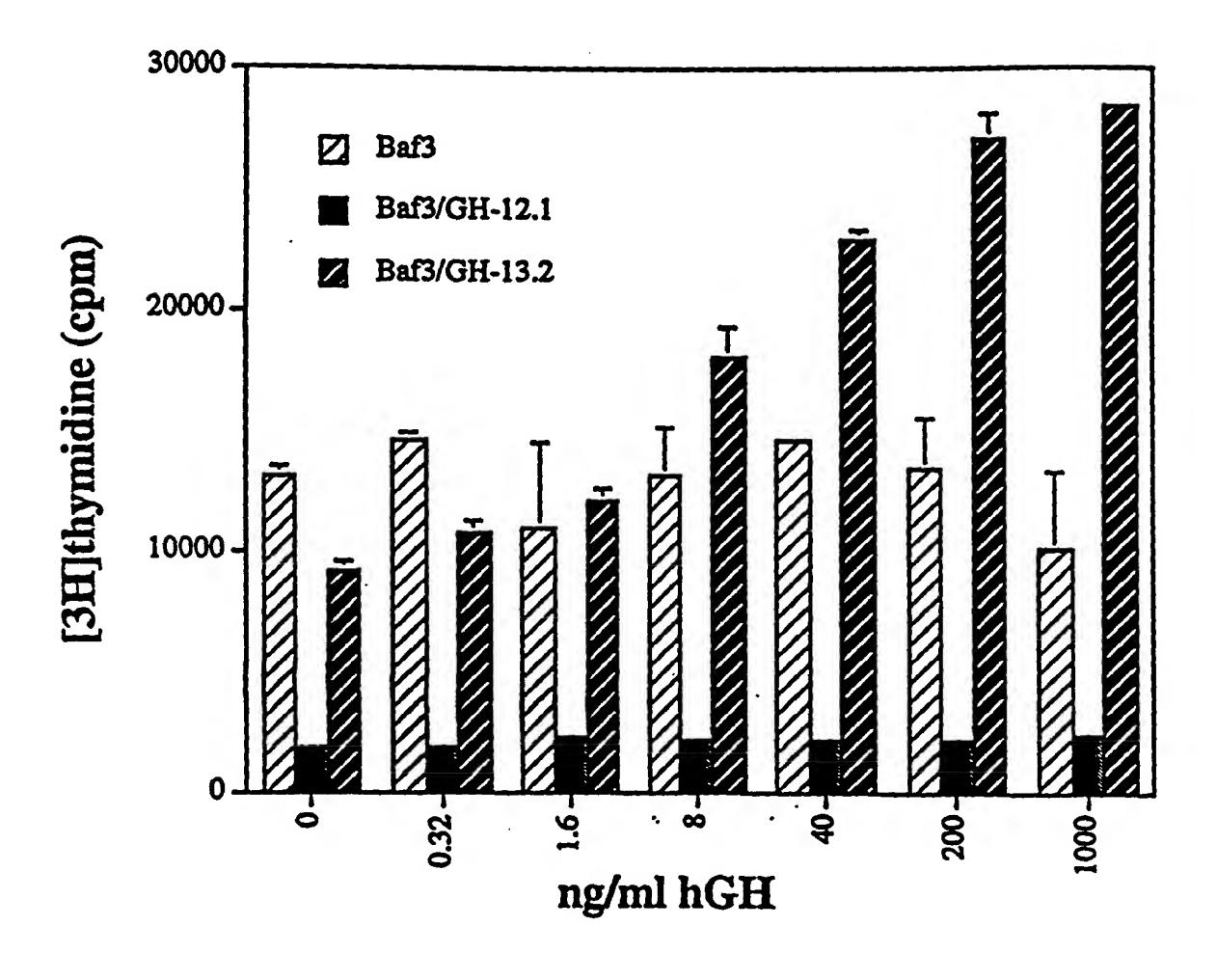
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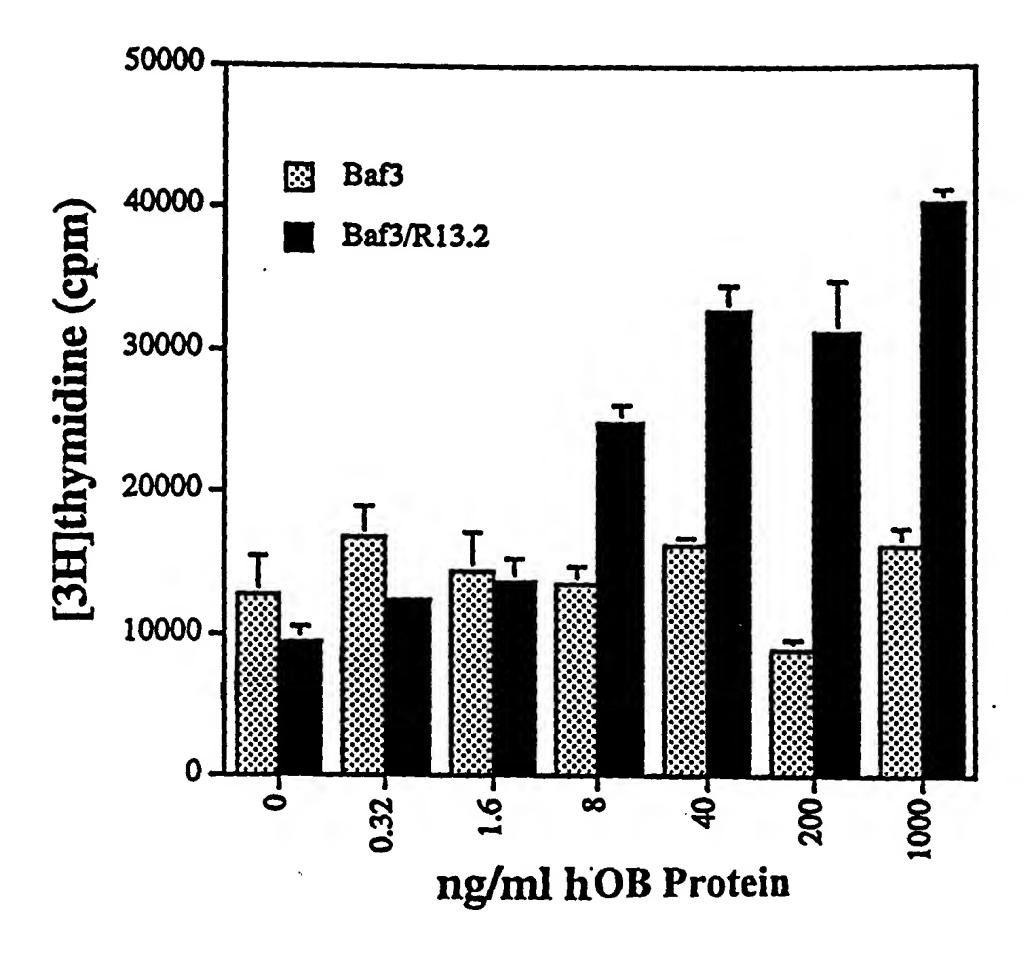
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Murine			
-213	Sense:	GGGTTAAGTTTCCCACCC	(SEQ ID NO:9)
	Antisense:	GGGTGGGAAACTTAACCC	(SEQ ID NO:10)
	Scrambled:	AGGATACAGTGGGATCCC	(SEQ ID NO:11)
-99	Sense:	GCCCGAGCACTCCTTTAA	(SEQ ID NO:12)
	Antisens :	TTAAAGGAGTGCTCCCGC	(SEQ ID NO:13)
	Scrambled:	GAGCGGCCCTGTTAGATA	(SEQ ID NO:14)
-20	Sense:	GTATACACCTCTGAAGAA	(SEQ ID NO:15)
	Antisense:	TTCTTCAGAGGTGTACAC	(SEQ ID NO:16)
	Scrambled:	ATGCGAGGCTACTTCTAT	(SEQ ID NO:17)
. 0 4	Songo.		/CEO TO NO.191
+84	Sense: Antisense:	CTCTCCCTGGAAATTTAA TTAAATTTCCAGGGAGAG	(SEQ ID NO:18)
	Scrambled:	ATTTGAAGGAGTTAAGCC	(SEQ ID NO:19) (SEQ ID NO:20)
	acrammred;	ATTIGAAGGAGTIAAGCC	(SEQ ID NO:20)
+211	Sense:	AATTTAATTCAAGTGGTA	(SEQ ID NO:21)
	Antisense:	TACCAGTTGAATTAAATT	(SEQ ID NO:22)
	Scrambled:	GTATCACTTCATAATATA	(SEQ ID NO:23)
			(008 00 0000)
Human			
Human 5L	Sense:	GATGGTCAGGGTGAACTG	(SEQ ID NO:24)
	Sense: Antisense:	GATGGTCAGGGTGAACTG CAGTTCACCCTGACCATC	(SEQ ID NO:24) (SEQ ID NO:25)
5L	Antisense:	CAGTTCACCCTGACCATC	(SEQ ID NO:25) (SEQ ID NO:26)
	Antisense: Scrambled: Sense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT CTTAAATCTCCAAGGAGT	(SEQ ID NO:25) (SEQ ID NO:26) (SEQ ID NO:27)
5L	Antisense: Scrambled: Sense: Antisense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG	(SEQ ID NO:25) (SEQ ID NO:26) (SEQ ID NO:27) (SEQ ID NO:28)
5L	Antisense: Scrambled: Sense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT CTTAAATCTCCAAGGAGT	(SEQ ID NO:25) (SEQ ID NO:26) (SEQ ID NO:27)
5L +85	Antisense: Scrambled: Sense: Antisense: Scrambled:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT	(SEQ ID NO:25) (SEQ ID NO:26) (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29)
5L	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC	(SEQ ID NO:25) (SEQ ID NO:26) (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29) (SEQ ID NO:30)
5L +85	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC GCTGGGATGTGCCTTAGA	(SEQ ID NO:25) (SEQ ID NO:26) (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29) (SEQ ID NO:30) (SEQ ID NO:31)
5L +85	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC	(SEQ ID NO:25) (SEQ ID NO:26) (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29) (SEQ ID NO:30)
5L +85 -47	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Scrambled:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC GCTGGGATGTGCCTTAGA CGCAATGAATTGACCCCC	(SEQ ID NO:25) (SEQ ID NO:26)  (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29)  (SEQ ID NO:30) (SEQ ID NO:31) (SEQ ID NO:32)
5L +85	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Scrambled: Sense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC GCTGGGATGTGCCTTAGA	(SEQ ID NO:25) (SEQ ID NO:26)  (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29)  (SEQ ID NO:30) (SEQ ID NO:31) (SEQ ID NO:32)  (SEQ ID NO:33)
5L +85 -47	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Scrambled:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC GCTGGGATGTGCCTTAGA CGCAATGAATTGACCCCC  TACTTCAGAGAAGTACAC	(SEQ ID NO:25) (SEQ ID NO:26)  (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29)  (SEQ ID NO:30) (SEQ ID NO:31) (SEQ ID NO:32)
5L +85 -47	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Antisense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC GCTGGGATGTGCCTTAGA CGCAATGAATTGACCCCC  TACTTCAGAGAAGTACAC GTGTACTTCTCTGAAGTA	(SEQ ID NO:25) (SEQ ID NO:26)  (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29)  (SEQ ID NO:30) (SEQ ID NO:31) (SEQ ID NO:32)  (SEQ ID NO:33) (SEQ ID NO:34)
5L +85 -47	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Antisense:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC GCTGGGATGTGCCTTAGA CGCAATGAATTGACCCCC  TACTTCAGAGAAGTACAC GTGTACTTCTCTGAAGTA	(SEQ ID NO:25) (SEQ ID NO:26)  (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29)  (SEQ ID NO:30) (SEQ ID NO:31) (SEQ ID NO:32)  (SEQ ID NO:33) (SEQ ID NO:34)
5L +85 -47 -20	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Scrambled:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC GCTGGGATGTGCCTTAGA CGCAATGAATTGACCCCC  TACTTCAGAGAAGTACAC GTGTACTTCTCTGAAGTA GAATCACGGTAACTATCA  CAGCTGTCTCATAATGTC GACATTATGAGACAGCTG	(SEQ ID NO:25) (SEQ ID NO:26)  (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29)  (SEQ ID NO:30) (SEQ ID NO:31) (SEQ ID NO:32)  (SEQ ID NO:32)  (SEQ ID NO:33) (SEQ ID NO:35)  (SEQ ID NO:35)
5L +85 -47 -20	Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Antisense: Scrambled: Sense: Scrambled:	CAGTTCACCCTGACCATC GAGGCGAATGTGCGGATT  CTTAAATCTCCAAGGAGT ACTCCTTGGAGATTTAAG AAGTCTTAAGCCAGACTT  TCTAAGGCACATCCCAGC GCTGGGATGTGCCTTAGA CGCAATGAATTGACCCCC  TACTTCAGAGAAGTACAC GTGTACTTCTCTGAAGTA GAATCACGGTAACTATCA  CAGCTGTCTCATAATGTC	(SEQ ID NO:25) (SEQ ID NO:26)  (SEQ ID NO:27) (SEQ ID NO:28) (SEQ ID NO:29)  (SEQ ID NO:30) (SEQ ID NO:31) (SEQ ID NO:32)  (SEQ ID NO:32)  (SEQ ID NO:33) (SEQ ID NO:34) (SEQ ID NO:35)





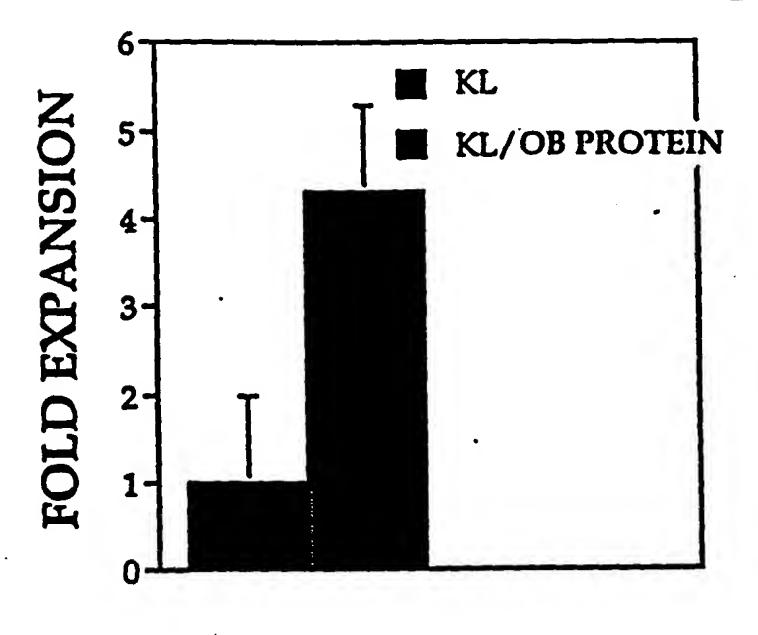


Figure 10A

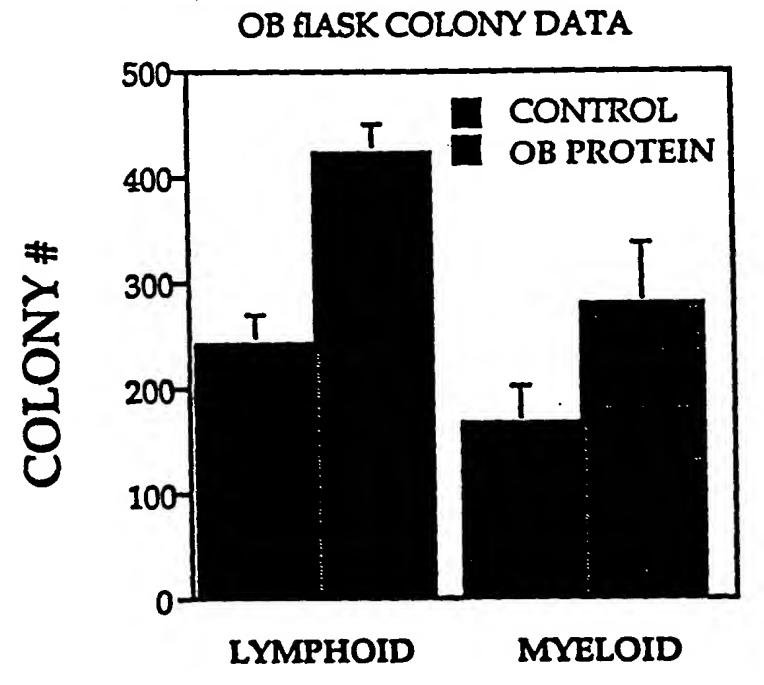


Figure 10B

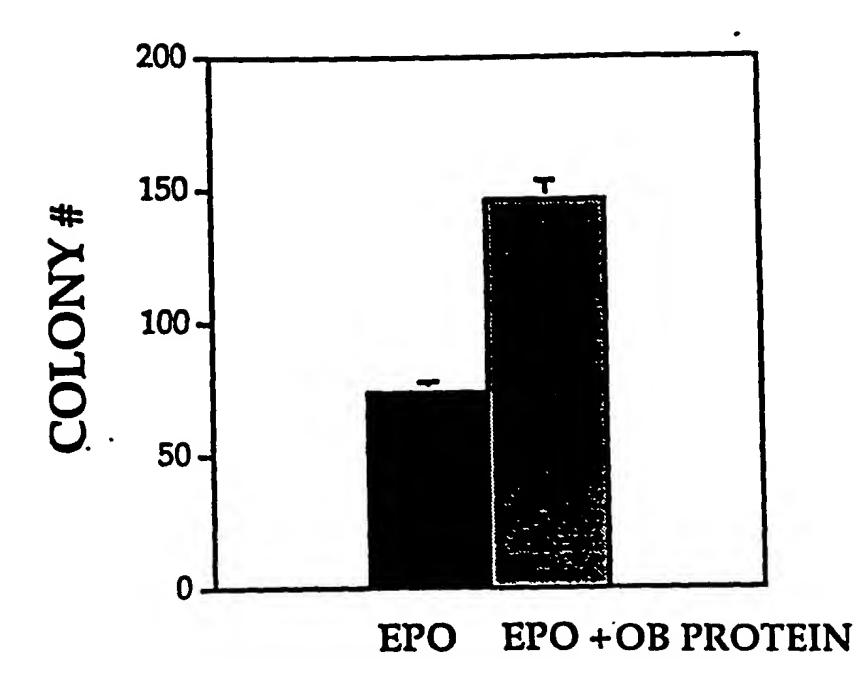
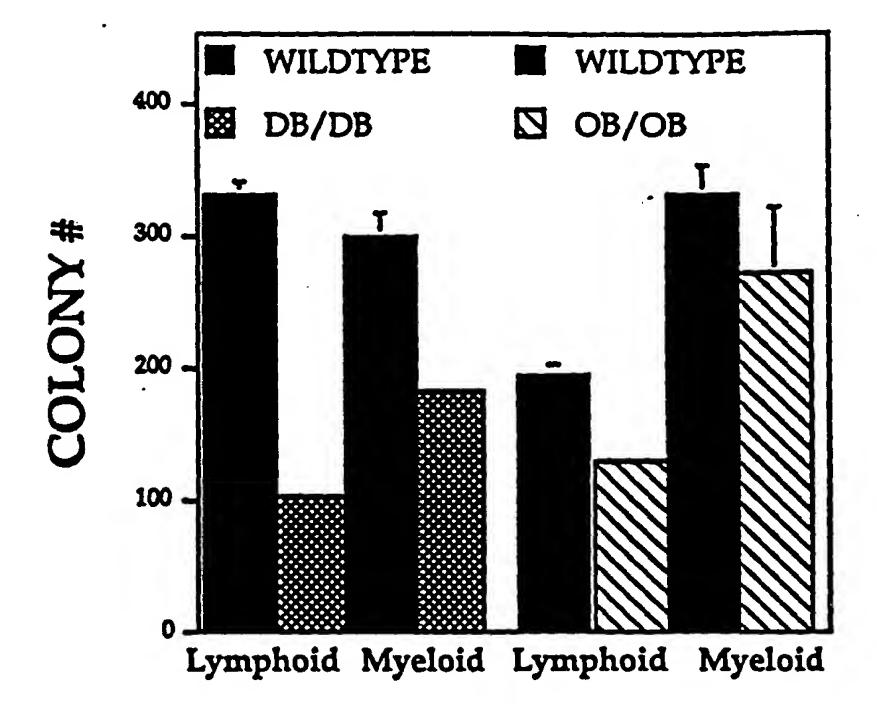
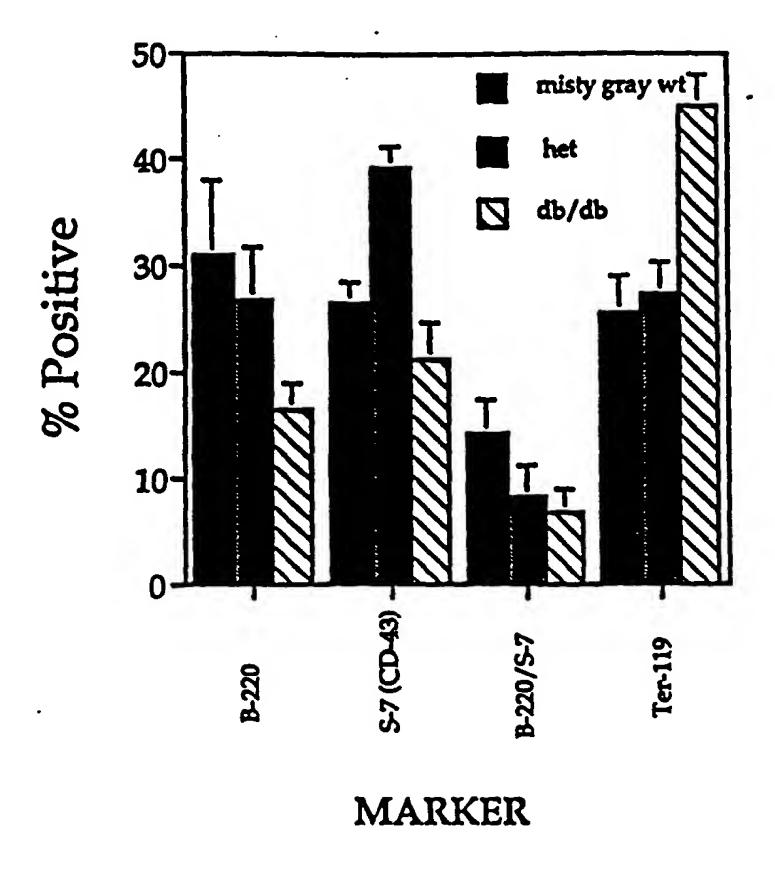
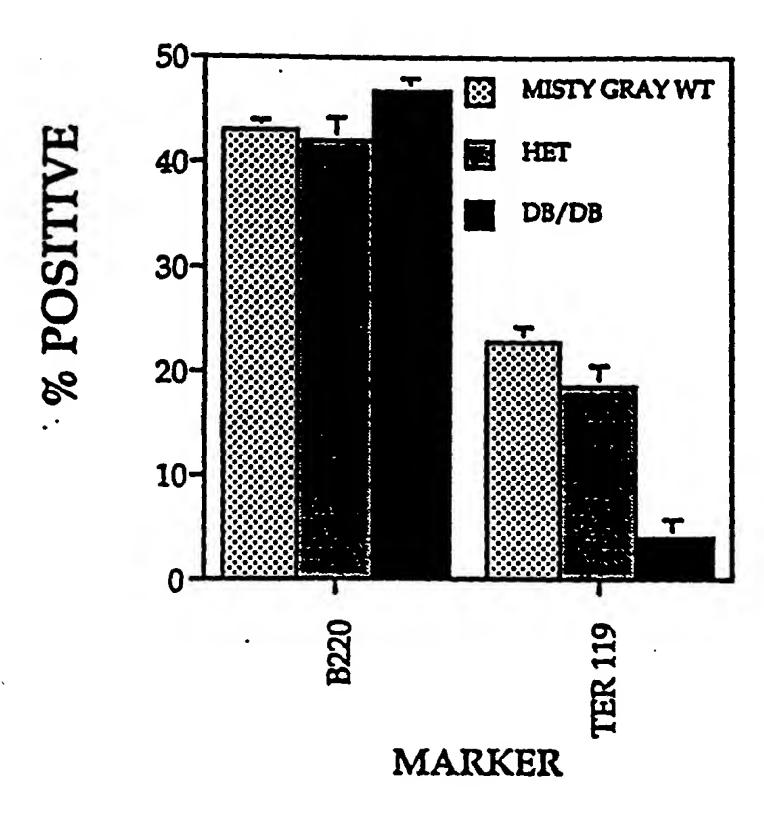


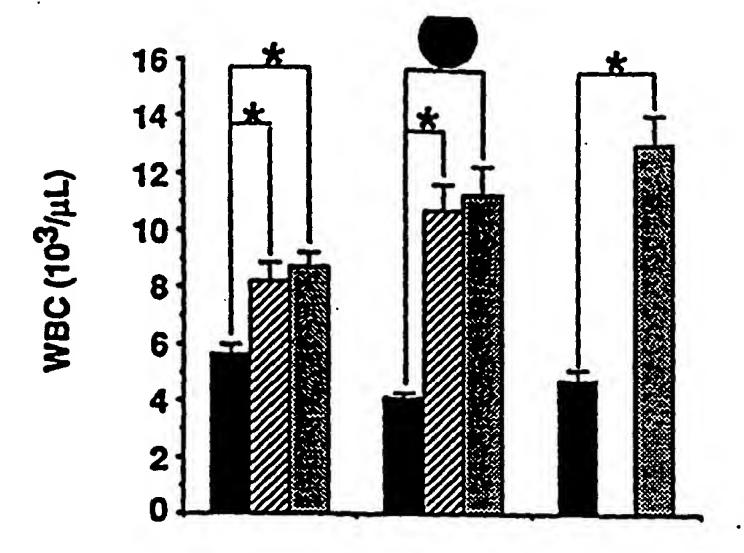
Figure 10C







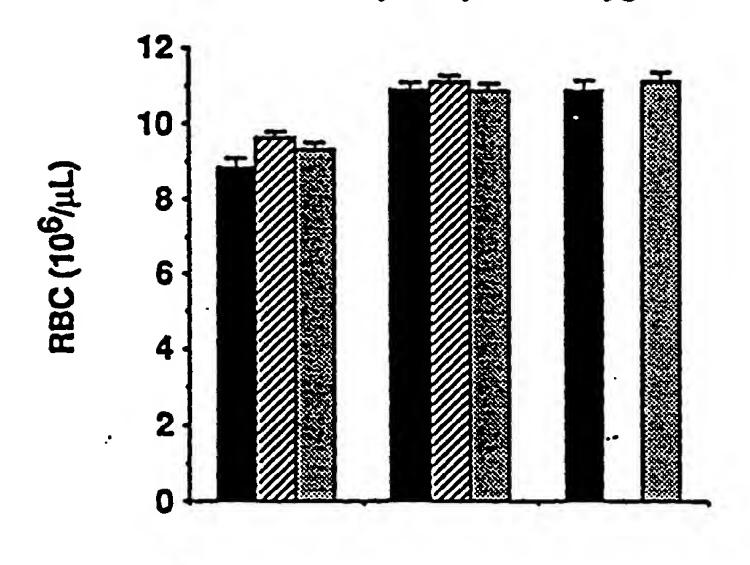
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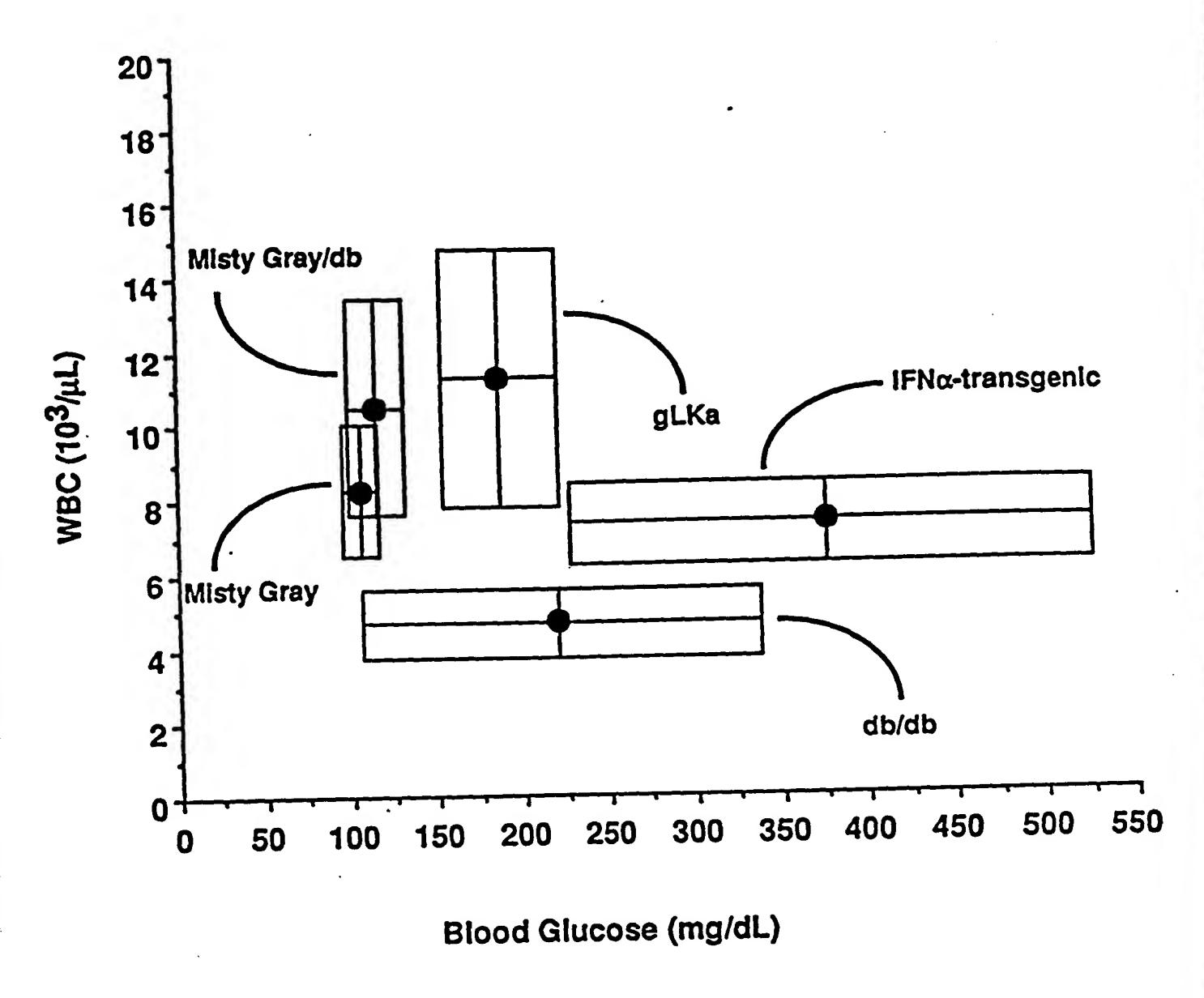
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- db/Misty Gray heterozygous

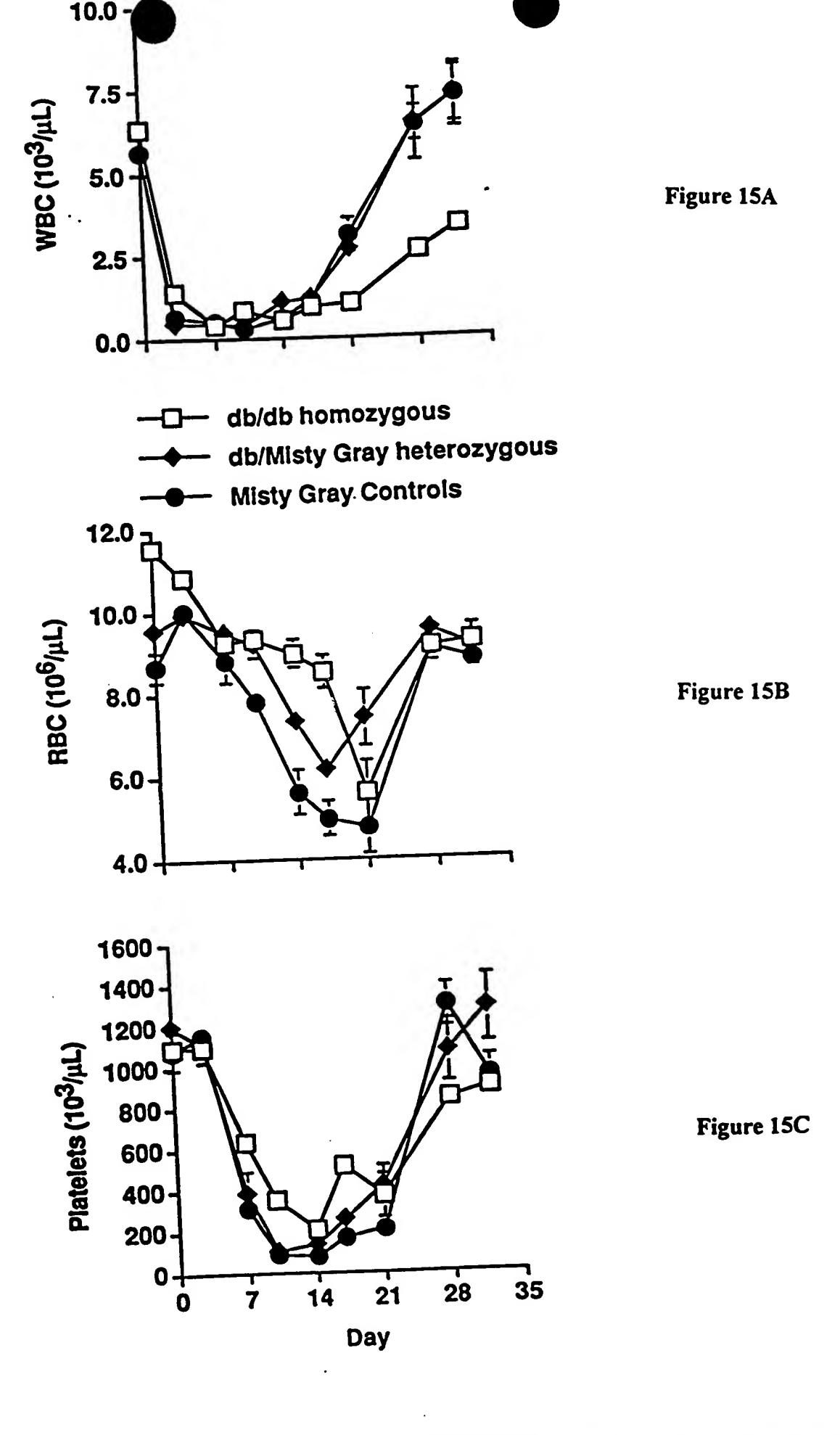


2000 | 1600 | Th/(-01) 1200 | 800 | 400 | 33 | 57 | 82 | Age (days)

Figure 13B

Figure 13C





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### The state of the s 1

7127 (circular) std length: sites:

asel/asnl/vspl tru9ľ msel mael rmal spel hgiai/aspili ec113611 **bsp1286 DSIHKAI** hgiJII banii aluI DmyI sstl saci

fnuDII/mvnI

thaI

acil maeIII

bslI

**bsh12361** 

bstul

TCATTAGTTA ATGCCCCAGT AATCAAGTAT CGGGTATATA CCTCAAGGCG CAATGTATTG GCCCATATAT GGAGTTCCGC GTTACATAAC TTAGTTCATA TACCCCCTCA TTCGAGCTCG CCCGACATTG ATTATTGACT AGTTATTAAT AGTAATCAAT AAGCTCGAGC GGGCTGTAAC TAATAACTGA TCAATAATTA

tagi

moelil maeII ahal I/bsallI hinii/acyI macll aatll . acil apy1[dcm+] haeIII/palI' ecorii bglI batHI BCFFI daav MVAI acti Bau96I Inse

TCACCTATGT TCCCATAGTA ACCCCAATAG GGACTTTCCA ACTGCATACA AGGGTATCAT TGCGGTTATC CCTGAAAGGT CCCCCATTG ACCTCAATAA CCCCTAAC TCCAGTTATT Accedeca ceaacteces certectes se receeeer Georgacee Ceaaceaeee TTACCCTAAA AATGCCATT 101

ahall/bsaHI hinli/acyl maeII aatii csp6I rsal ndeI cap61 rsal bgli ahall/bsaHI hinli/acyI maell aatil

AGTACGCCC CTATTGACGT CAATGACGGT GATAACTGCA GTTACTGCCA TCATGCGGG TTGACGTCAA TCGGTGGAGT ATTTACGGTA AACTGCCCAC TTGGCAGTAC ATCAAGTGTA TCATATGCCA AGTATACCGT TACTTCACAT AACCGTCATG AACTGCAGTT ACCCACCTCA TAAATGCCAT TTGACGGGTG 207

ecoRII SCLFI mval acti

nlaiit capéı rsal bari sau961 bathI haell1/pal1 dsav bali

ANATGCCCC CCTGCCATTA TCCCCAGTAC ATGACCTTAT GGGACTTTCC TACTTGGCAG TACATCTAGG TATTAGTCAT CGCTATTACC ATGGTGATGC TTAACCGGGC GGACCGTAAT ACGGGTCATG TACTGGAATA CCCTGAAAGG ATGAACGTACGTAGATGC TACTAGAATACG TACCACTACG csp61 apy1 [dcm+] asul

thall/bann

ual 11

**DsmAl** 

nfl

Ξ

acil

CATGTAGTTA CCCCCACCTA TCCCCAAACI

CCAAAACCCT CCTTTTCCCA

101

GTACATCAAT GGGGGTGGAT

csp61

real

13

d

hgici nla1V

ACCESTITION CICACCISCA TITICAACTE TECACCICAT TEACCICAAT GEGAGIITGI TITGGCACCA
TECESTAACI CASTECCECT AAACCGISCAGIA ACTECAGITA CECICAAACA AAACCGIGGI hglJII alul banI Bacl BBtI

hgial/aspHI ec1136II

**bsp1286 D**81HKAI

DmyI

rsal

acil

hgal

acii

maelll

501

banII

AAATGGGCGG TAGGCGTGTA CGGTGGGAGG TCTATATAAG CAGAGCTCGT TTTACCCGCC ATCCGCACAT GCCACCCTCC AGATATATTC GTCTCGAGCA mnll csp61 CCTAACTCCG CCATTGACCC AAATCAACGG GACTTTCCAA AATGTCGTAA CAACTCCGCC TTTAGTTGCC CTGAAAGGTT TTACAGCATT GTTGAGGCGG

haeIII/palI MCFI

eagI/xmaIII/eclXI eael

cfrI

fnutill

acil thaI

fnuDII/nvnI

nspBII sacil/sstil SCIFI avall

Bau96I

esp3I

BCFF1

**DSEAI** 

mva I

**ecorii** 

ncil bgli beli kspī dsal **BCrFI** lusa nlalV

saulaI malI bstUI ncil

Idsm

mbol/ndell[dam-] hpall dpnII(dam-) bsh12361 bsaJI dpnI (dam+) hpall Idsm mbol I

alw! [dam-] caull dsav Ppual bbsI

dpnII[dam-] ahaII/bsallI

601

fokI

hgaI

dpn1 [dam+]

mboi/ndeli[dam-] sau3AI gsuI/bpmI

hinl1/acy1

**Datni** 

dsav

apy! [dcm+]

CACCGGGACC mn 1 1

GAACCGTGCA

9900999999

Caull

aciı

dsav

CTAGGTCGGA GGCGCCCGCC CTTGCCACGT CATCCAGCCT GTCCCCTCC CTTTTGACCT CCATAGAAGA CAAAACTGGA GGTATCTTCT TTACTGAACC GTCAGATCGC CTGGAGACGC CATCCACGCT AATCACTTGG CAGTCTAGCG GACCTCTGCG GTAGGTGCGA

tfii

\*Begin RNA

acil

fnuDII/mvnI hinfi thai

**bsh12361** batul

701

TTGGNACGCG GATTCCCCGT GCCAAGAGTG ACGTAAGTAC CGCCTATAGAC CCACCCCCTT GGCTTCGTTA GAAGGCGGCT ACATTAATA
AACCTTGCGC CTAAGGGGGA CGGTTCTCAC TGCATTCATG CCGAAATCCG GGTGCGCGAAA CCGAAACAAT CTTGCGCCGA TGTTAATTAT luse scfl hinfl csp61 maeIIf

plet scft hacili/pall maell rsal

acii

\*sp6 promoter

asel/asnl/vsp

**bsh12361** 

**Lead** 

styl

sau961

bstXI

bstul

msel

fnuDII/mvnI tru9I

fnu4111

acil

thal

Figure 16B

luse acryl

econ11 記るは「

dsaV

bstri

apyI [dcm+]

CAGGTTGACG GTCCAACTCC CCTCACCGTC CCACTCCCAG bell beall GTATTGGAAT ACATAGTATG TGTATGCTAA ATCCACTGTG ATATCTTATT GTAGGTGAAA CGGAAAGAGA GGTGTCCACA TATAGAATAA CATCCACTTT GCCTTTCTCT CCACAGGTGT ^sp6 RNA start foki scf1 CATAACCTTA TGTATCATAC ACATACGATT TAGGTGACAC hphl

mae! I I

801

I96neø tfil

hae!!I/pal! asul hinfi aci nlaIV tagi nsii/avalli ppu101 cla1/bsp106 bsaJI mnll

InLysValGin TTTTTCAGGT AAAAAGTCCA ValProlleG GTCCCCATCC CACCCCTACC rValGlnAla TCTCCAAGCT ACAGGTTCCA ATCTTTCTA TAGAAAAGAT yrLeuPhcTy yPheLeuTrp LeuTrpProf CTTTGGCCCT CAAACCCCCA ATTCTTCTCC TAAGAACACC TATCGATATG CATTGGGGAA CCCTGTGCGG Met HistrpGlyT hrLeuCysGl GCCACACCCC TGGAGCCAAG ATAGCTATAC GTAACCCCTT ACCTCGGTTC

bmyI fokI

aluī

**bsp1286** 

human OB start \*cloning linker

mpol/ndell[dam-] dpnf[dam+] sau 3AI

BCTFI T G A E

Idam

hpall

cfr10I

**DaaWI** 

agel

hphI

mnll

dsav bath ecor

[dcm+] apyl

dpn11(dam-) maeIII alvi (dam-) hph 1

GCAGTCAGTC TCCTCCAAAC AGAAAGTCAC CGGTTTGGAC TCTTTCAGTG GCCAAACCTG rclyleulsp maelll SerSerLysG lnLysValTh ACCACCTTTC **bsmAI** rClnSerVal CCTCAGTCAG lesernisth TTTCACACAC AAAGTGTGTG IleAsnAspI TCTCACCAGG ATCAATGACA TAGTTACTGT eValThrArg ACAGTGGTCC TCAAGACAAT GTTCTCTT letysThril munI AGATGACACC AAAACCCTCA Lysthrieut TITTCCCACT moli Aspaspthr TCTACTGTGG

1001

**bsp1286** hgijii bmyI

banII

nlaiv ecoRII BCrFI EVOI

bathi Dead Acsp

ArgAsnValile TCTTTGCACT AGAAACGTGA ATACCCAACC TATCCCTTCC rHetProSer ACTEGERATE TACCAACAGA TECTCACCAG ACCACTCCTC LeceuThrSe Tyrcincini ATCCTTCTCT accl rf.cuAlaVal TCACCGTCAG bsrl TCCACCACAC ctAspGlnTh ACCTCCTC asuf TTATCCAAGA LeuSerLysM AATAGGTTCT CATCCTCACC olleCeuThr GTAGGACTGG foki TTCATTCCTG GGCTCCACCC 1yLeuli isPr CCGACGTCGG apy1 (dcm+) Phelleproc AAGTAAGGAC 1101

hphI

an I

alwni

pfimi

196nes

avall

bsrl mbol/ndell[dam-] sau 3AI dpn1(dam+)

00 🗪

mbol/ndell[dam-]

dpnI (dam+)

84U3AI

dpn II [dam-] alw! (dam-) bstY1/xhoII

maelI

dpn11(damalw! [dam-] Figure 16C

20 54

	val DsmAl			bsaJI	[+E	bsal	III/pall	C TCGAGACCTT	G ACCTCTGGAA	L euGluThrLeu	19618	AVAII	aluI		nspBII	fnu4HI	bbvI asuI			e utrpGlnLeu							<b>—</b>	ear1/ksp6321	6	_	C CACAACCCC		
1 1 2 2 9		CORII	dsaV	bstni	I apyI (dcm+)	apy1[dcm+] haeI	bari haeiii/pali	U		AlaSerGlyL				IInad		Idsu			TCCTCTACGA	1 1nAspHetLe		<b>!</b> !					TIOQU		PPBI		CACTCACAAC		
100	J > 1	econii ec	dsav	bstri	bsaJI bstXI	ApyI	bsaJI	1 CTTGCCCTGG	CAACCCCACC	steuProtrp					pati	DSMAI	bsal bagi	s GGTCTCTGC	CCCAGAGACG	n GlySerLeuG	eam11051	196nes		avaII	ecorii			beall nlalv	3		ACCCCCCTON		
					Cnuthi	bbvI	Inle Is	ACACCTCCCA		' ysSerCysH1			scfi	scfI	bsgl	all fnu4H1	<b>PPAI</b>		_	e rArgLeuGln			SCIFI	IRAU	ŭ	ð,	ă				r GGACTTGAGG		
					J	haell1/poll	haef ddel	CCCTTCTCTA		1 AlaPheSerL			ddel	pstI		haeIII/palI	Inse		C ACCCCCACTC	/ alAlaLeuSe								bsp1286		_	s cacecarear		CH3
treat.	•	- E D	lum t	macil		bbrPl	am-) h			ile uilisvalleu				bslī	gau961	xcm1	bstxI mnlI	CC ACAGAGGTGG	NGC TCTCTCCACC	ser ThrGluValV	•		•			1	nlall	Idsu	83		ier Graceeeree		HUMAN 19G1 CH2CH3
14100		-mpol/udeli[dam-	mspludp Idsm	nbo11	dpn[I [dam-]	[-mcb Iwle ]	caull mbol	C GCGATCTTCT	_	ud rgaspleule						III		_	_	Se rClýtyrSer	•		•	•							TG TITTGAGIGT	of a gly	RT OF
, Chom?		l ncll		II hpall	dsav	CE	apy1[dcm+]	G GAGAACCTCC		u GluhsnLeuA	eco571	SCIFI	aluI		dsaV	bstNI hindI	apyI (dcm+)		G ACCTTCGAAG	L euglualase						•	Indu			_		finsertion of	
•		BCTFI	mva [	ecoRII	dsav	bstri	bstår apy	CAACGA	GTTGCTGGAC	rysnysplen			RII mval	/ ecorii			[dcm+]	GGGGGTGT	CCCCACAGG	a GlyGlyValL	BCrFI	mvaI	ecoRII	dsav	bstni	bslī	DSAJI	Ž	40		_	the follows to	·
							A	TCCAAATATC	ACCTITATAG	Glullese	BCFFI	MVAI	ecoRII	dsav	bathi	bsaJI	Apy	1301 CCACACCCTG	CCTCTCCCAC	AspSerLeu	-	43	•					H	mnll	_	Applement	•	
								1201		96								1301	•	129										1401	162	\ \	

styl gsul/bpml

haelli/pall Buu961

cc0721

sau3Al cobstraint

BCrFI

SCIFI

Inse

								maeti	rsal	csp61	II beri beaal	<b>FCAACTGGTA</b>	AGTTGACCAT	neAsnTrpTyr
		•						drdI mnlI	mboli ddei	bpual eco811	bbs! bsu361/mstII/sauI bsrI bsaAI	CGAAGACCCT GAGGTCAAGT TCAACTGGTA	TCCACTCGGT GCTTCTGGGA CTCCAGTTCA AGTTGACCAT	sGluAspPro GluValLysP heAsnTrpTyr
									Xqu	idq	maell bb	ACCTCACCCA		MetileSerA rgThrProGl uValThrCys ValValValA spValSerHi sGl
							7				H	Greereste	CACCACCACC	. ValValVall
							nlalll	Idsu Il	Iligan	eco811 mae111	bsu361/mst11/sauI	GGTCACATGC.	CCAGTGTACG	uValThrCys
Baug6ft ft at a ft and	<b></b>	=	<b></b>			avall	I {dam-}	I mull	.) dde1	asul eco81		CCACCCCTCA	CCTCCCCCACT	rgThrProGl
	ldsm	1 bad 1	scrfl	ncil	deav	sau3AI	mbol/ndell[dam-]	nlallI caulf	rcal dpn1[dam+]	bspHI [dam-]	dpnII[dam-]	ATGATCTCCC	TACTAGAGGG	HetileSerA
								u	rca	dsq	Enl I	CCACACCCTC	CCTCTCCCAC	LysProLy sAspThrLeu
										styI	bsaJI	1501 CANANCCCAA GGACACCCTC ATGATCTCCC GGACCCCTGA.GGTCACATGC GTGGTGGTGG	GITTIGGGIT CCIGIGGAG TACTAGAGGG CCIGGGGACT CCAGIGIACG CACCACCC	LysProLy
												1201	-	196

			BCIFI	MVAI	ecoRII	dsav	econi batni	ball apyl(dcm+)	ccr ccrccaccag	GCA GGACGTGGTC	rva lLeuHisGin	fnutili	bbvI avaI	AGCCAAAGGG CAGCCCCCAG	TCGGTTTCCC GTCGGGGTC	shlatyscly GinProArgClu	
							hphī	hgal mulf	Greercasce recreacest	CACCAGTCCC AGGAGTGGCA	irv alleuthrva			AN AGCCAAN	_	-	
								£			g valvalserv			ATCCACAAAA CCATCTCCAA	r cctacacert	r hrileSerly	
					real	Csp61	maell	bsaAI	CACCTACCGT	CTCCATCCCA	rThrTyrArg		taqī	ATCCACAAA	TACCTCTTT	Hechulyst	
							rsal	csp61	NGTACAACAG	TCATGTTGTC	InTyrAsnSe			CCCAGCCCCC	CCCTCCCCC	uProAlaPro	
acii thai famhii/meni	10	Bacil/sstil	11			-		I mull	CCCACS:CC	CCCCTCCTCG	ArgGluGluG		Ilam	ACAAAGCCCT	TGTTTCCCCA	snLysAlale	I
acii thai	batul	BACI	118dsu	kspl	dsal	Lesq	acti	fun4111	GACAAAGCCG CGGGACG::GC	CTGTTTCGGC GCCCTCCTCG	sthrLyspro ArgGluGluG	<b>DsmA1</b>	bsal	AAGGTCTCCA	TTCCAGACCT	LysvalSerA	
									1601 CGTGGACGGC GTGGAGGTGC ATAATGCCAA	GCACCTGCCG CACCTCCACG TATTACGGTT	isasnalaty	rsal	csp61	GTACAAGTCC	CATGTTCACC	uTyrLysCys	
			•					. mulx	CTCCAGCTCC	CACCTCCACG	ValAspGly ValGluValH	•		ATCCCAACCA	TACCGTTCCT	snGlyLysGl	
								•	CCTCCACCCC	CCACCTCCCC	ValAspGly		bsrI	GACTGGCTGA ATGGCAAGGA	CTGACCGACT	AsptrpleuA	
									1601		229			1701		262	

dsaI bsaII bsaJI GCGACATCGC	CGCTGTAGCG erAspileAla dsai hphi alui bsaji CAAGCTCACC GTTCGAGTGG	scrfi ncii mspi hpali dsav bsmAi i bsli cauli TCCCTGTCTC AGGGACAGAG SerLeuSerPro	aluI fnu4HI bbvI TATTGCAGCT ATAACGTCGA
	ACATAGGGT hetyrPros ccrctacag ccrctacag ccacatgrc	mboll mull earl/ksp6321 GAAGAGCCTC T CTTCTCGGAG AG	III/pali CCAACTTGTT GGTTGAACAA
M Z M	e uValLysGly P  nlaiv mboil  c cccaccance A  c cccaccanca A  p clySerPheP h	C ACTACACGCA G TCATGTGCGT H 18TyrThrG1	nla nuditi gli styl il ncol i bsal elli/pul acii cccccrr cccccrr
BCLF1 CCOR11 dsaV bspMI CACCTG	pleI hinfi concoccessing concorces of concorces of concorces of concocces of concocces of concocces of concorces of concorces of concorces of concorces of concocces of concoc	T CTGCACAACC	dii alui hindii AGAAGCTT TCTTCGAA
	mnli SG CTCCCGTGCT SG CAGGGCACGA	nlaiii ppuloi nsii/avaiii sfani mnli car gcarcagger cta ccracrecca	tagi plei scfi il sali psti i hincii/hindii bi acci bsgi hinfi bspMi kGA GTCGACCTGC AG
6321 GACCAAG	TAC AAGACCACGCATC TYT LYSTHIP	III GCTCCGT CGAGGCA YSSerVa	rma xbal aluT'mac indiii AGCTTCT/ TCGAAGA1
#=====================================	SCG CCCTTCTCTA STA rgGluGluMe SCA GAACAACTAC SCT CTTGTTGATG SCI WASHASHTYF	mbolt bpual ell bbsl GTCTTCT CAGAAGA ValPheS	tagi sali lei scfi hincli/hindii infi psti li bsgi acci bspMi h icac crccrccac
fok ball cccccAT	Leu ProProSerA  . mspl hpall fnu4Hl bbvl NTG GGCAGCCGA rAC CCGTCGGCCT	THE GCAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	rmal rmal 1961 hi 117pal 11 maei CCCTAGA GGGATCT
	CG GAGAGCAATG	bspMI GCAGGTG CGTCCAG	AGTGGGAC
1801 AACCACAGGT	1901 CCTGGAGTGG GCACCTCACC	2001 GTGGACAAGA CACCTGTTCT 362 ValasplysS	2101 CGGGTAAATG GCCCATTTAC 396 GLYLY8

	CATTOTA GTTGTGGTTT GTCCANACTC ATCAATGTAT	ATATTACCAA TGTTTATTC GTTATCCTAG TGTTTAAACT CTTTATTCG TAAAAAAGT GACAAAACAAA
them I macf	CHICCATTOTA GT	GALTTANGAT CA
	C ATTTTTCA	C TANANANGT
	CA CANATANAC	CT CTTTATTTC
app.	ACAAATTT	TGTTTAAA
BfaNl	CAATAGCATC	GTTATCCTAG
maeilt aport aport in the transfer in the mace	2201 TATAATGGTT ACAAATAAAG	ATATTACCAA TGTTTATTTC

	rsal	csp61	nlalV	kpnI	hgici	DanI	asp718 mnlI	acc651 ddel aci1	AGGTACCTTC TGAGGCGGAA	PCCATGGAAG ACTCCGCCTT	
		hacIII/pal1	haeI	styl	ncol	dsal	PsaJI	nlaili mnli mnli	CCATGGCC TGAAATAACC TCTGAAAGAG GAACTTGGTT	GGTACCGG ACTTTATTCG AGACTTTCTC CTTGAACCAA	
mbol/ndell[dam-] dpn1[dam+] dpn1I[dam-]. pvu1/bspCI	mcrI	tagi[dam-] tru9i	clai/bsp106[dam-]	gaugal msel fnutil styl	mbol/ndell(dam-) bbvl	Idnit (dam+) xmnI hinPI	el/asnl/vspl	nlail alwi[dam-] asp700 hhai/cfoi nlaili	2301 CTTATCATGT CTGGATCGAT CCGCAATTAA TTCGGCGCAG CACCATGGCC	CANTAGTACA GACCTAGCTA GCCCTTAATT AAGCCGCGTC GTGGTACCGG ACTTTATTGG AGACTTTCTC CTTGAACCAA	^sv40 origin

scrfl	nval	ecoRII	dsav	bstni	apyI[dcm+]	BEXAI	GTCAGCAAC	CACACACATAC
gfaNI	101ndd	nsil/avalli	nlaifi	Inqs	Ideu	IHdeu	GCAAAGCATG CATCTCAATT AGTCAGCAAC	COMPROCTAC CTACACTTAA TCACTCGTTG
scrfl	mval	econii	dsaV	bstni	apy1 (dcm+)	bsaJI	AGAACCAGCT GTCGAATGTG TGTCAGTTAG GGTGTGGAAA GTCCCCAGGC TCCCCAGCAG GCAGAAGTAT	<b>それていかかいかい りかいしかいじじじて じしつかじじじじゃし かかかしくべいて</b>
						• •	G TCTCACTTAG GGTGTGGAAA GTC	
				aluI	Iluvq	IJEdan	AGAACCAGCT GTCGAATGT	しい ひかるかんがんかる かるかるからかない まいしゅうしからい

nlaIV

TCTTGGTCGA CACCTTACAC ACAGTCAATC

		•					II acii toki	CCCCCTAAC TCCCCCCATC
							acil	CAN TTAGTCAGCA ACCATAGTCC (
		IOIndd	nsil/avalli	nlalii	sphī	INDE I BEANI	IHdsu	AAGT ATGCAAAGCA TGCATCT
Alain	BCLFI	MVAI	ecoRII	dsav	bathi	apy1 (dcm+)	DsaJI	ACCATAGOS AACTOOCAG GOTOOCAGO AGGOAGAAGT ATGOAAAGOA TGOATOTOAA TTAGTOAGOA ACCATAGTOO GGOCOTAAG TOGGOCATO

2501 CAGGTGTGGA AAGTCCCCAG GCTCCCCAGC AGGCAGAAGT ATGCAATCTCAAA TTAGTCAGCA ACCATAGTCC CGCCCTAAC TCGCCCATC GTCCACACCT TTCAGGGGTC CGAGGGGTCG TCCGTCTTCA TACGTAGAGTT AATCAGTCGT TGGTATCAGG GCGGGATTG AGGCGGGTAG	fnu4HI	bg11	SELI	haeIII/palI	muli muli ddei	haelll/pall bsall mull alul
TGCAAAGCA TGCATCTCAA TI			nlafit			
GCTCCCCAGC AGGCAGAAGT ATGCAAAGCA TGCATCTCAA			nla	styl	ncol	lesh Ilsd
AAGTCCCCAG TTCAGGGGTC						barI
CAGGTGTGGA GTCCACACCT						
2501						

2601

mva [ Boug61 nlalV

Bau96I **ecoRII** avall thaI

[unm/IIQnu] bstul

avaII **b**stnI daay **bsh12361** hinpi

bstnl

sful

asull bsici

haelll/pall

bsaJ 1 styl

blnI

mael

hael

mn 1 I

mn l I

avril

mn 1 I

rma l

stul

tru91

hha I/cfoI

asul

fnu4HI asuI apyI(dcm+)

DsaJI actI actI

GCCGCCCCG TCCCAGGTCC TTGCAANAG CTGTTAATTC GAACACGCAG ATGCAGTCGG GGCGGCGCG TCCCAGGTCC AACGTTTTC GACAATTAAG CTTGTGCGTC TACGTCAGCC CCGCGGGCC AGGGTCCAGG sfani

mboI/ndeII[dam-]

sau 3AI

dpnI[dam+]

mbol/ndeII[dam-]

sau3AI

dpnI (dam+)

bstYI/xh II

\*start pucile

tagi

msel

alul

AGGICTICAT CACTCCTCG AAAAACCTC CGGATCCGAA

TCCAGAGTA GTGAGGAGGC

2701

TTTTTTGGAG GCCTAGGCTT

TK promoter

thal

fnuDII/mvnI batul

aflili mluI

**bsh12361** hphI tru91

mn]I hgal

haeIII/pall tagi haeI msel maelil

TCGAACACCG

TTAAGGTGAC GCGTGTGGCC AATTCCACTG CGCACACCGG

ACTTCCCATA

2801

TCAACCCTAT

AGCTTGTGG

scfl pstl

16sq

fnu4HI

bbvI

t.ru91 acil msel

acil dpnII(dam-) bsmAI ACCENCECTG CAGCGACCCG CTTAACAGCG TCAACAGCGT GCCGCAGATC TCGCTGGGAC GTCGCTGGGC GAATTGTCGC AGTTGTCGCA CGGCGTCTAG fnutHI hincII/hindII hgaI

tn5 neomycin phosphotransferase gene.

dpnII(dam-)

palii

ACTAGTTCTC

TCATCAAGAG

bclI[dam-]

/xmalll/eclXI hacIII/palI fun4111 acil BCrl

mbol/ndeII[dam-]

BauJAI

dpnII(dam-)

bsaB1 (dam-)

mam1 (dam-)

mnll

dpnI [dam+]

eag1, eael cfrl

**bsp1286** 

DmyI

Idsm

hpall

TTCTCCCCCC CCTTGGGTGG AGAGGCTATT CGGCTATGAC TGGGCACAAC TCTCCGATAA GCCGATACTG ACCCGTGTTG Dari mn 1 I CGAACCCACC AAGAGGCCGG TCCACCCACG ACCTCCCTCC DSpMI CANGATGGAT CTTCTACCTA TCTCCTACTC CTAGCAAAGC GTACTAACTT CATGATTGAA nlaIII ACAGGATGAG GATCGTTTCG foki alwi[dam-]

\$

scfi psti bsgi	fouthi fruthi creerear	I mbol/ndell[dam-dpn1[dam-dpn1[dam+] dpn1[dam+] alwr[dam-] alwr[dam-]	<pre>mbol/ndeII[dam-] dpnI[dam+] I[dam-] sapI mbolI dpnII[dam-] carl/ksp6321 : dpnII[dam-] carl/ksp6321 : dpnII[dam-] carl/ksp6321 : dpnII[dam-] carl/ksp6321 : dpnII[dam-]</pre>
bsp1286 bmy1 nlary hgicr ban1 msp1 hpa11 bsaM1	ell be cocrecer	fnu4H fnu4HI acii bbvi gcccccccccccccccccccccccccccccccccccc	foki sau3Ai mboi/ndei dpni[dam+ dpnii[dam+ gi[dam-] GATCAGGAT CTAGTCCTA
	splii maeli eco57 tth1111/aspl qi maelii GACGTT GTCACTGAA	nlaiii sfani TCCATCATGG CTGATGCAAT AGGTAGTACC GACTACGTTA	mspl hpall cfrl01 cGAAGC CGGTCTTG
hall/efol ( ) alv ri scrri si ncii hil/acyi iCi mspi ell hpall nf dsav all/bsalli cauli	hyi bsp alui pvuli fnu4iii bbvi bsi hinpi bsi hhai/cfoi sti nspbii viii/fspi GCGCACCTGT	CGAGAAAGTA	rsai cspéi bsani lAI/aspiii p1286 iiikai yi maeii ccaccatcac
hinpi hhai/ef AGCGCAGG	Pall  A  SACG GCCTTCCTT  TCC CCCCAAGGAA	hphi TCACC TTGCTCCTGC	tagi fani catccacc
•	haelli, sci/ball ael fri cccccc	I (dam- -) TCATC AGTAG	CAAG CGAAACATCG
	fnu4HI thai fnu4HI batui batui bah1236I hinPI bbvI acii caccccc TATCGTGCT caccccc ATAGCACCGA	mbol, I denI denI denI denI denI denI denI denI	MI tagi CTGCCCATTC GACCACCAAG
e o	fnu4H thai thai thai thai thai thai batui batui batui thu4H thai thai/cf ccrccrcccccccccccccccccccccccccccccc	serFI nctf nctf mspI hpaII dsaV cauII bsaJI troccccAAG TCCCGG	mspi hpali bspmi ATCCCCTAC CTGCC TAGCCCCATG GACGG
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sau3AI deII(dam-) dpnI(dam+) dam-) ncoI hoII daaI	AIVI GAM- J  AGAT CTCGTCGTGA C  CCTA GAGCAGCACT G	11 I cspI cctatcagga ccatagtcct	bsrBI hhal/ acii tfii fnutHI utHi hinfi bbvi sfa cccrccca rrccaccc	
sau3AI mbol/ndcII [dam-dpnI] dam+dpnII [dam-] bstYI/xhoII	Mn11 CGGCGAGGAT GCCGCTCCTA	bsll sau961 aval1 asu1 rsrII/cspI cpo1 acil acil GTGGCGACC GCT	bsrBI acii tfii fnutili hinf c ccccrccca T	
	CTCAAGGGG GCATGCCCGA	mspl hpall rae! cfrl0! haelll/pall ae! frl GG CCGCCTGGGT	TACGGTATC	•
hing hhal thal fauD11/mvn1 bstU1 1 bsh12361 hinPI nlaff1	dcm4) bssHII CTCAAGGCGC G	na cf hae taqI cfrI TCGACTGTGG	mn11 ccrccrccrt	
	apyl (dcm+) GTTCGCCAGG CTCA	LI tfii hinfi rctccattca Agacctaagt	. uct! ctcacccctt	taqi
	cageceaner Cageceaner Caececanea	acti fnutHi haeIlI/pali eaeI cfri rcccccrrr Acccccann	II fnu4HI 'I'ksp6321 'I'aluI acii AGAGCTTGGC GGCGAATGGG	
hinpi thai fnuDII/mvn bstui bspl286	Danii hhai/cfoi GGCTCGCGC CAGCCGAACT CCCCAGCGCG GTCGCCTTGA	nlalii Ca tggtggaaa Gt accaccttit	mboll fnu4Hl earl/ksp6321 o571.alul acil ca agacerrece geccaaree creacecrr	
	s fani Agagcatcag Tctcgtagtc	nla 3501 CCGAATATCA GCCTTATAGT	sapi mboli eari/ eco571. ATATTGCTCA AG TATAACGACT TC	
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mbol/ndell[dam-] mbol/ndell[dam-]

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dpn1 (dam+)

bstuI

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hpall

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TTTCCAACCC GAAGCCTTAG CAAAAGGCCC AAAGGTTGGG CTTCCCAATC GTTTTCCCGG

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dpn11[dam-] acil dpn11[dam-]

bsaJI

bsaJI

bell aval

mbo11

nlaIII

for alw1[dam-] bsh12361

ACCCCCCCTC CATCATCTC CACCCCCCC ATCTCATCT CCACTTCTTC GCCCACCCC GCAGATGGGG

CCTCAAGAAG CGGGTGGGGC CCTCTACCCC HSV1 tk terminator Smal-Pvull TCCCCCCC CTACTAGGAG GTCCCCCCC TAGAGTACGA

fuuDII/mvnI **bsh12361** bstul thal Idam

hhal/cfol

hinPI

hpall bsaHl Demal

nlalV acil AGGAGACAAT CACCCTAACT GAAACACGGA mnll 3901

ACCECARGEA ACCCECETA TEACEGEAAT AAAAAGACAG AATAAAACGE ACGGGTGTTG GGTCGTTTGT TEGECTTECT TEGECECEAT ACTECECETTA TTTTTCTGTC TTATTTTGCG TECECACAAC CCAGCAAACA TCCTCTGTTA CTCCCATTCA. CTTTGTCCCT

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TICCGGCCAA TACGCCCGCG TITCITCCTT TICCCCACCC CCTCTGGGGT AACCCCGGTT ATGCGGGGG AAAGAAGAA AAGGGGTGGG nboll acil nlalv CCAGACCCCA bsal G CTATGGGGTG IC GATACCCCAC tagi TCATAAACCC GCGCTTCGGT CCCAGGGCTG GCACTCTGT AGTATTTGCG CCCCAAGCCA GGGTCCCCAC CGTGAGACA apyI [dcm+] Inse **Dsh12361** 4001

Figure 16K

	1/pa]1	of I	
11 I nlary avall styr asul ncor ppuMI dsal bsaJI ccol1091/dral1 GGGTCCCCC CCCAGGGGG	haelli/pall foki rccatc acctac	di muni	acti thai fnubi batuj batuj kapi kapi kapi kapi kapi kapi kapi kapi
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alv elli/pal drall drall ol286 ol201 /I sul sul sccccrc	ddel CTGAGCAGAC GACTCGTCTG	th fn ccccaaaa	ma bst TTTGTATTGG
sau96) hgiJI ccoll ccoll dsaI bsaJ ATCCCTC	beri CACGACTGGA CTGCTGACCT	ACACCCCCA	hinPI hhai/cfoi hacii eco47111
forthi acti cocorrecce cor	sau961 avall asul GGGTCAGGTC C	f nuthi bbvi TGCTGCCAA	mnll rsaf ha csp6f ec GGTACGAGGA
mae I 1 a ACCTCCCC	GCCTTGCGTG	hinii/acyi ahali/bsaffi  mspi hpali dsav hgar cauli CAC CGGGGGTCTG TG	mboll ctrcttcct
286 En	ATTCTTTTGG	SCF GGAA	ANI ATCTCTGCCC TAGAGACGGG
hgili bspili bspili bmyl scrri mval ecokli dsav bstni bsali apyi (dch+) bsali apyi (dch+) bsali apyi (dch+) bsali apyi (dch+) bsali apyi (dch+)	CCTCGGGGTT	that fnuDII/mvnI fnuDII/mvnI iII betUI hfnPI II berI beh12361 cep61 hhai/cfoI ic factccccc aca	I B E
hphi crrccccrcr	GTTTATGGTT	u961 real all nspl acil ACCCA	bsli CAACTAAACC T
bali bali caaccccaa	ATGGGGAATG	ecori dsav bstni av bstni av bsli as bsaji nlali apyi(dcm+)	mspI hpalI acil fnutiii GCGCGCCTG
101	4201	4301	407

GCGCCGACGA TAGTCATGCC TCAGTATTCA CCCCGCTGCT ATCAGTACGG thaI nlalil bcgI fnu4HI acti ACTCATAAGT TCAACGIACT ATTICITCTG CGGGACCCCG GCCAGGGCAC CTGTCCTACG AGTTGCATGA TAAAGAAGAC I LOQU **bpuA1** bbs1 Ęį nlallI accerdade contracta cacadante ^pBR322 sequence **bsp1286** apy1 (dcm+) nlalV hgict eccol091/drall banl haeIII/pall Day! ecok!! BCFF1 bsaJl bstnI mval dsav hpall cfrI eael mspl BCrFf Caull ncil daav ball bsaJI I [sq sau961 nlalv avail nlaIV **I H n d d** Inge 4501

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batuI

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hha 1/cfo1

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CCCAACCACC

CCCCCCCAC acii bsli

GCCCCGGGTG GCCTTCCTCG

Iuam/IIQnuJ acti hha1/cfoI fuu4HI bstul tru91 acti thaI hinpr hhaI/cfoI hinpi fuu4HI fnuDI1/mvnI rsal hhal/cfol bstul scfI **bsh1236I** hinpi thal eagI/xmaIII/eclXI haeIII/palI fnu4111 aci I fua4HI eael mcrI acil noti barBl MCLI

TCACTCCCTT GAAGCCTCTC AAGGCCATCG GTCGAGCGGC CGCATCAAAG CAACCATAGT ACGCGCCCTG TAGCCGCCCA TTAAGCGGGG CGGTGTGGT AATTCCCCC GCCCACACCA msel bsh12361 GCGTAGTTTC GTTGGTATCA TGCGCGGGAC ATCGCCGGGT acii ball csp61 sfaNI CAGCTCCCCG taq1 cfrI CTTCCCAGAG TTCCCCTAGC sfani ACTCACCCAA berl 4601

AH13 ort ~delta

mbol1 hhaI/cfoI barbi acil hinpi haeII hha I/cfoI rma I haell macl hinpi acii maelil funDII/mvnI hhaI/cfoI fnutHI **bsh12361** maelii bbvi hinpr bstuI thal

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maell GGTTACGCGC AGCGTCACCG CTACACTTGC TCCCACTGGC CATGTGAACG CCAATGCCC

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haellI/pall Eau96I Inse maell drallI **DBaAI** hphI taql ban1 mn11 nlaIV hgici nlalV **bsp1286** DanII DmyI alul

CAAGCTCTAA ATCGGGGGCT CCCTTTAGGG TTCCGATTA GTGCTTTACG GCACCTCGAC CCCAAAAAC TTGATTGGG TGATGGTTCA CGTAGTGGGC GTTCGAGATT TAGCCCCGG GGAAATCCC AAGGCTAAATCC CGTGGAGCTG GGGTTTTTT AAGCCCCCGA GGGAAATCCC AAGGCTAAAT CACGAAATCC CGTGGAGCTG GGGTTTTTTG AACTAAACCC ACTACCAAGT GCATCACCG 4801

ball aval	CAACACTCA ACCCTATCTC	GTTGTCAGT TGGGATAGAG
bsr1	CCAAACTCCA A	CCTTTCACCT T
dedicath in the transfer of the state of the	4901 CATCCCCTG ATAGACGGTT TTTCCCCCTT TGACGTICGA GTCCACCTTC TTTAATAGTG GACTCTTGTT CCAAACTGGA ACAACACTCA ACCAATCTC	CTACCCCCAC TATCTCCCAA AAAGCCCCAA ACTCCAACCT CAGGTCCAAG AAATTATCAC CTCAGAACAA GGTTTGACCT TGTTGAGT TGGGATAGAG
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sspI CCCCATAAGA AAACTAAATA TTCCCTAAAA CGGCTAAAGC CGGATAACCA ATTTTTACT CGACTAAATT GTTTTTAAAT TGCGCTTAAA ATTGTTTAT CAAAAATTTA ACGCGAATTT TAACAAATA apol tru91 msel fnuDII/mvnI **bsh12361** bstuI tru91 msel apol tru91 AAGGGATTTT GCCGATTTCG GCCTATTGGT TAAAAAATGA GCTGATTTAA msel alul tru91 mse] haelll/pall GCCCTATTCT TTTGATTTAT

5001

AGGTTAATGT CATGATAATA ATGGTTTCTT AGACGTCAGG TGGCACTTTT TCCAATTACA GTACTATTAT TACCAAAGAA TCTGCAGTCC ACCGTGAAA ahall/bsaHI hinli/acyl MACIT aatlI ddeI nlaIII PspiiI rcal tru91 mse! GATAAAATA CTATTTTAT TTAACGTTTA CAATTTTATG GTGCAGGCCT CGTGATACGC AATTGCAAAT GTTAAAATAC CACGTCCGGA GCACTATGCG haeIII/palI Bull I stul haei psp14061 maell tru91 msel 5101

Adelta 2a nlaIV acti thai

sapi CTCATAAATG GACAATAACC **DBMAI** acil nlaili CCCCTCATGA **DaphI** rcal barbl AAATATCTAT AAATACATTC CCCTATTTGT TTATTTTTCT fnuDII/mvnI TCCCCCCAAC hha1/cfo1 **bsh12361** batul hinpi

CTTCAATAAT ACCCCCTTG GGGATAAACA AATAAAAGA TTTATGTAAG TTTATACATA GGCGAGTACT CTGTTATTGG GACTATTAC GAAGTTATTA GCCCCTTTAC CCCCCANATC 5201

fuu4HI

nbol1

GAAGAGTATG AGTATTCAAC ATTTCCGTGT CGCCCTTATT CCCTTTTTG CGGCATTTTG CCTTCCTGTT TTTGCTCACC CAGAAACGCT CTTCTCATAC TCATAAGTTG TAAAGGCACA GCGGGAATAA GGGAAAAAAC GCCGTAAAAC GGAAGGACAA AAACGAGTGG GTCTTTGCGA hphi acil ear1/ksp6321 TAACTTTTTC ATTGAAAAG 5301

mbol/ndeII[dam-] dpnII [dam-] dpnI (dam+) BAUJAI mbol/ndelI[dam-] nspBII dpnII[dam-] bstYI/xholl dpnI (dam+) Bau3AI hgiAI/aspHI **bsp1286 DSIHKAI** mpol/ndell[dam-] dpnI[dam+] bmyI dpnII [dam-] sau3AI

mbol1 TCGAACTGGA TCTCAACAGC GGTAAGATCC TTGAGAGTTT TCGCCCCGAA ACCTTCACCT AGAGTTGTCG CCATTCTAGG AACTCTCAAA AGCGGGGTT bstYI/xhoII aciı alwi[dam-] taqI GGGTGCACGA GTGGGTTACA CCCACGTGCT CACCCAATGT maellI alw44I/snoI CCTCANAGTA AAAGATGCTG AAGATCAGTT CCACTTTCAT TITCTACGAC TICTAGICAA sfani mboli[dam-] hphI 5401

alwI[dam-]

bsrI

apaLI/snoI

eco57I

it i it i it i ccatacact ccctatctca	TAACCATGAG ATTGGTACTC	m-] sau3AI mbo1/ndeII[dam-dpnI[dam+] dpnI[dam+] TCGCCTTCAT AGCGGAACTA	beri tru91 msel TTAACTGGCG	CTGGCTGGTT	eam11051 TATCTACACG
ac I meri fnv Actegrege TGAGCCAGCG	fnuthi bbvi AGTGCTGCCA TCACGACGCT	nlalli mu3Al maelli bol/ndell[da pnl[dam+] wl[dam-] ATCATCTAAC TAGTACATTG	hinpi iti ///fspi ///fspi hhai/cfoi Si ccccaacta ccccaacta	bgli u961 e111/pall ul mspl ccccrrcccc ccccrrcccc	GTATCGTAGT
I II IV III ICYI GGCAAGAGCA CCGTTCTCGT	ACAATTATGC	nlaiii AACATGGG		hinPi hhai/c rcrccccrc	T AAGCCCTCC
msp1 hpa11 dsay cau11 hln11/acy1 hga1 aha11/bsaH1 ctrecccc ccc	nlaiii Ca tgacagtaag Gt actgtcattg	TTTTTTGCAC	fnu4HI bbvI A GCAGCAATGG	sau961 avall asul c caccaccacc	sau961 asuf nlafV t hac111/pal1 CCC CCCAGATGGT
/mvnl 61 ATTATCCCGT CATC TAATAGGGCA CTAC	fok 1 Accgatcg Tgcctacc	alul acit Agctaaccc	s fani Caccatecca Gectacet	LI GATAAAGTTG C CTATTTCAAC	udii ni vi bsri caccacte
thaf thaf fuubl f bst UI bsh 123 bfn PI hha I/cf caccccccc	S fan I Aaagcatctt Tttcgtagaa	sau96I avall Al asul /ndell[dam-] [dam+] I[dam-] bspCl mnll GC. JGACCGAAGG	MACCTCACAC TCGCACTGTG	foki. i acii pi mnli c carccaccc	LI I DII/mvnf UI 12361 GCTATCATT
··· dra i Gttctgctai Caagacgata	berl II maelti IC CAGTCACAGA IG GTCAGTGTCT	mbol, dpn1 dpn1 pvu1/ mcr1 AACGATC	CCAAACGACG	ru91 sel bsr el/asnl/vs TAATAGACT ATTATCTGA	bsmA bsal TCCCTCT
AI/aspH1 1286 tru91 HKAl msef I ahaiii, CACTTTTAAA GTGAAAATTT	rsal csp61 scal hph GAGTACTC	Pali T TACTTCTGAC A ATGAAGACTG	A TGAAGCCATA	Pair rF1 11 av uii cccaaca	mspl hpail cfr101 ilv hphi 'bpm1
CANTGAT	TGACTTGGTT	haeIII/palI eael cfrI fnu4HI acil acil acil	mspi hpali bsawi itv alui inc cccaccicaa	alul n rmal d mael c rcraccrrc	nle gsul/
maell psp14061 xmnl asp700 caacgriffc crrccaaag	ddel Attctcagaa Taagagtctt	TCATAACACT	h bs nlalv cerrecease ccanecerre	AACTACTTAC	TATTGCTGAT
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AAAGAJCAAA GGATCTTCTT GAGATCCTTT TTTTCTGGGG GTAATCTGCT GCTTGCAAAC AAAAAAAACCA
TTTCTAGTTT CCTAGAAGAA CTCTAGGAAA AAAAGACGCG CATTAGACGA GGAACGTTTG TTTTTTTGGT
                                                                                                                                                                                                                                                                                       IT TICCTAGATE CACTICTAGG AAAAACTATI AGAGTACTGG TITIAGGGAA TIGCACTCAA
                                                                                                                                                                                                                                                                       TCTCATGACC ANAICCCTT AACGTGAGTT
                                                                                 CCTACTICCT TTATCTGTCT ACCCACTCTA TCCACCGAGF GACTAATTCG TAACCATTGA CAGTCTGGTT CAAATGAGTA
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                                                                 GGATGAACCA AATAGACAGA TCGCTGAGAT AGGTGCCTCA CTGATTAAGC ATTGGTAACT
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I (dam-) mn11
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dde1

河南

CCCCTACCAG CCGTGCTTTG TTTCCCGGAT CAAGAGCTAC CAACTCTTTT TCCGAAGGTA ACTGGCTTCA GCAGGGGG GATACCAAAT ACTGTCCTTC GCCGATGGTC GCCACCAAAC AAACGGCCTA GTTCTCGATG GTTGAGAAA AGGCTTCCAT TGACGGAAGT CGTCTGGGG CTATGGTTTA TGACAGGAAG bari fnutHI bbv1 fun4HI bbvi alvul Dari maellI hacIII/palI CCCCTACCAG 6401

rmal mael

hha1/cfoI

eco571

maelll

alul

hpall Idem

acit

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nspBII

acii

alwI (dam-)

bari

hinpi

ACCACCCCCT ACATACCTCG CTCTGCTAAT CCTGTTACCA GTGGCTGCTG CCAGTGGCGA GACACCATTA GGACAATGGT CACCGACGAC GGTCACCGCT TCTTGAGACA TCGTGGCGGA TGTATGGAGC mn I I acil AGAACTCTGT scfl TAGTGTAGCC GTAGTTAGGC CACCACTTCA haeI ball 6501

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Berri

acil INCHII bbvr hinpl hpa11 Idse DSaWI ple1 hpa f I dsav Idsm ncll

ACCIGAGITE IGCIATERAT GECTATICE GEGICGECAG CECGACITGE CECECAAGEA CETGICICGE GICGAACCIC CAGCTTGGAG aluI CCCCTCAACG GGGGGTTCGT GCACACAGCC CCGGNTANGG CGCAGCGGTC maelll ACCATACTTA TCCACTCAAG hinfi ATTCAGCACA GAATGGCCCA CTTACCCCCT Caull TAAGTCGTGT 6601

hha1/cfof

alw44I/an I

apaL1/sn

Dayl

**bsp1286 DBIHKAI** 

fnu4HI hpaII Idem bell hha I/cfoI hinpi

CCAACGACCT ACACCGAACT GAGATACCTA CAGCGTGAGC, ATTGAGAAAG CGCCACGCTT CCCGAAGGGA GAAAGGCGGA CAGGTATCCG GTAAGCGCCA GCTTGCTGGA TGTGGCTTGA CTCTATGGAT GTCGCACTCG TAACTCTTTC GCGGTGCGAA GGGCTTCCCT CTTTCCGCCT GTCCATAGGC CATTCGCCGT acil **DSAMI** acil haell scfl ddel 6701

scrfi mva I **ecorii** SCIFI EVAI

dsav ecoRII bathi Aesp

**bstnI** bsaJI AluI MnlI

hinpi

tagi

AGCGTCGATT TCCCAGCTAA hgal CICCICICCG GITTCGCCAC CICTGACITG
CAGGACAGCC CAAAGCGGTG GAGACIGAAC drdI mnll GOSTCOGNAC AGGAGAGGG ACCAGGGAGC TTCCAGGGGG AAACGCCTGG TATCTTTATA GTCCTGTCGG ATAGAAATAT apy1[dcm+] CCCAGCCTTG TOCTCTCGCG TGCTCCCTCG AAGGTCCCCC TTTGCGGACC apy1[dcm+] hha1/cfo1 6801

tru91 nsel hinpi alul IInad nlaIV asel/asnl/vspl CTCACCCCAA CCCAATTAAT AAACACTACO AGCAGTCCCC CCGCCTCGGA TACCTTTTG CGGTCGACCG TGCTGTCCAA AGGGCTGACC TTTCGCCCGT CACTCGCGTT GCGTTAATTA hhaI/cfoI NA GCGGGCA acti GCCAGCTGGC ACGACAGGTT TCCCGACTGG berl \*deltal.PVV nspBII TTTCTCATGC TCCTCAGGG GCCGGAGCCT ATGGAAAAC acil sfant. 6901

scrPl

**ecorii** IPAU

**DSTNI** dsay nlalv

apyI(dcm+) banl bsaJl hgici

MOLI

TATTGETAAA GEGEGECCET ATAACAATTT CACACAGGAA GCCACCCCAG GCTTTACACT TTATGCTTCC GGCTCGTATG TTGTGCAA TTGTGAGCGG AACACTOGCC berbi NATACGAAGG CCGAGCATAC AACACACTT hpall CCCTGGGGTC CGAAATGTGA CACTCAATGG AGTGAGTAAT GTCACTTACC TCACTCATTA maelll 7001

Idsm

acti

asel/asnl/vspl tru91 msel

asp700 xmnI nlaIII aluI

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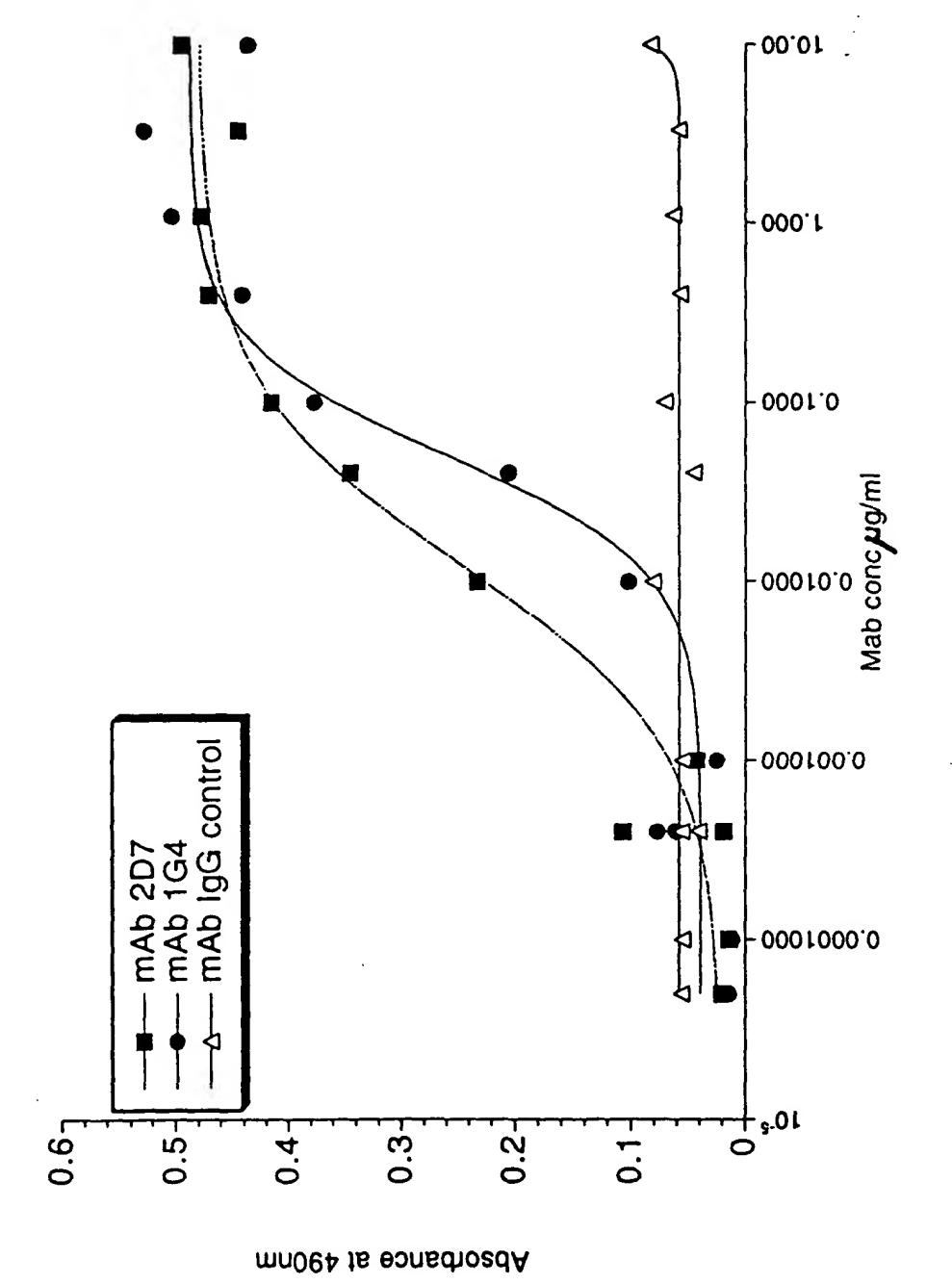


Figure 17

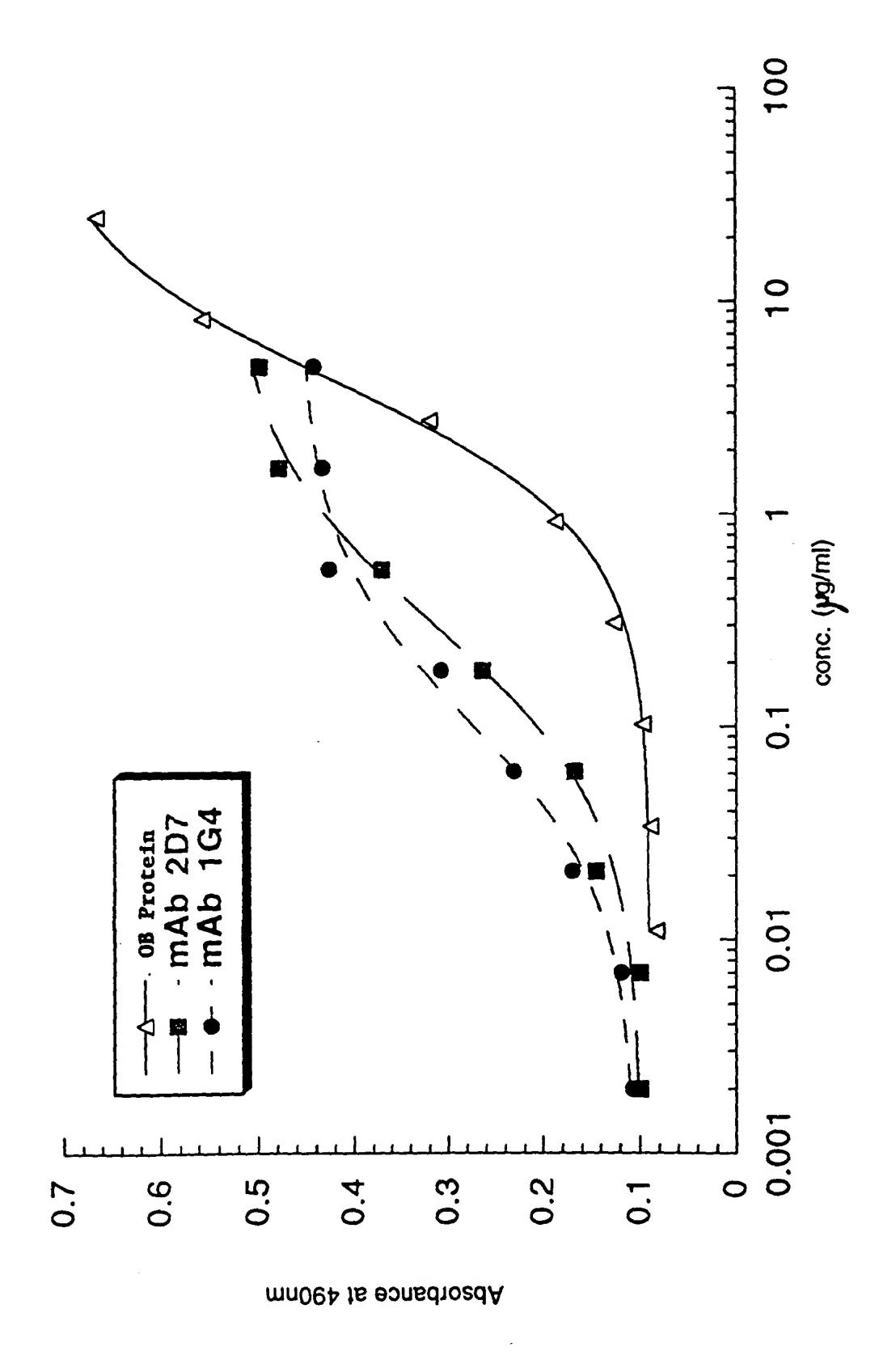


Figure 18

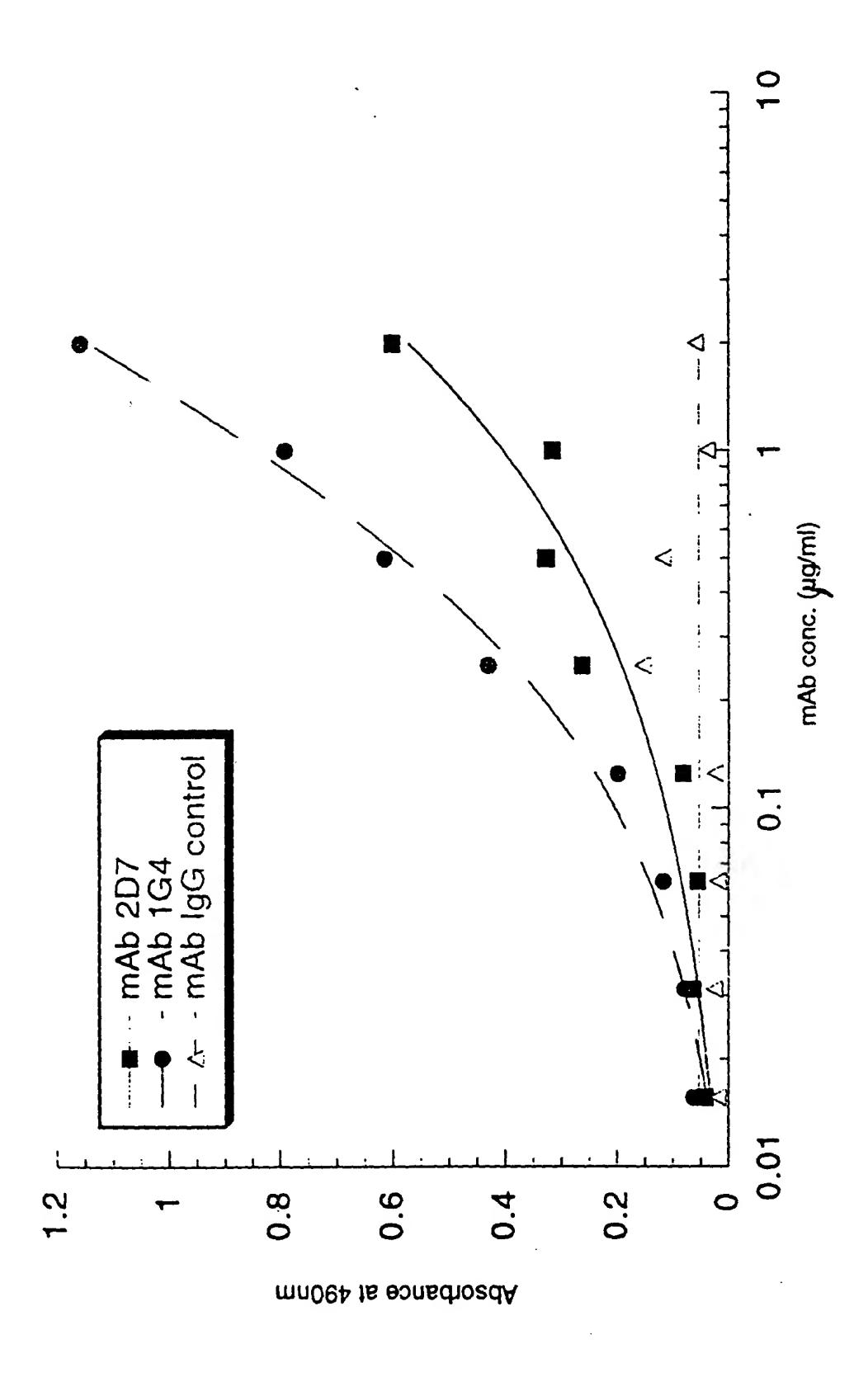
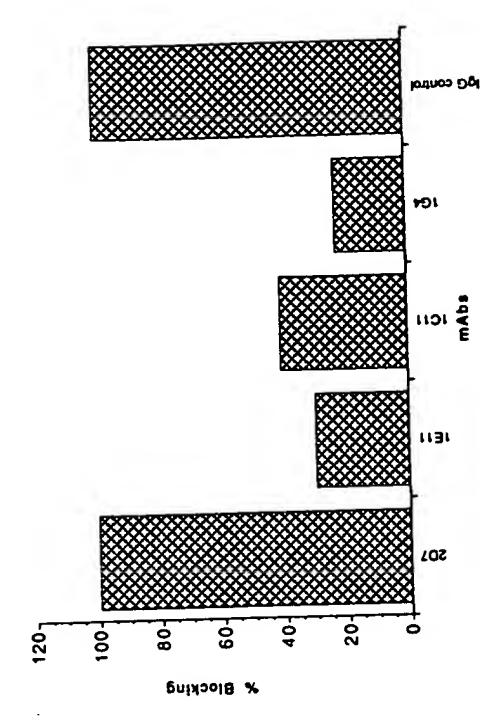
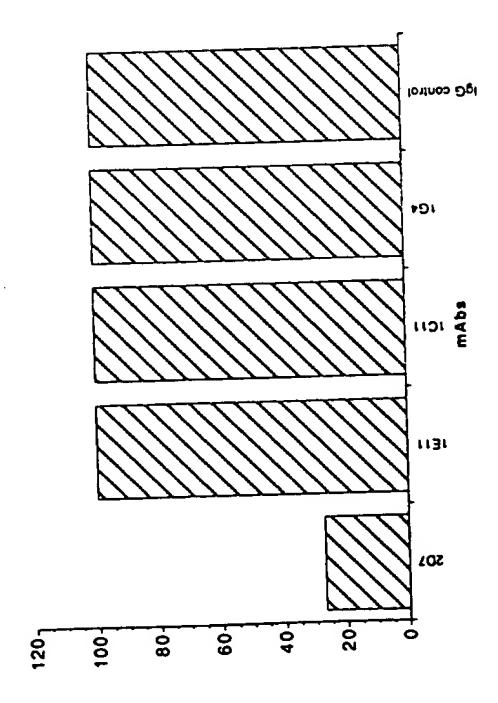


Figure 19







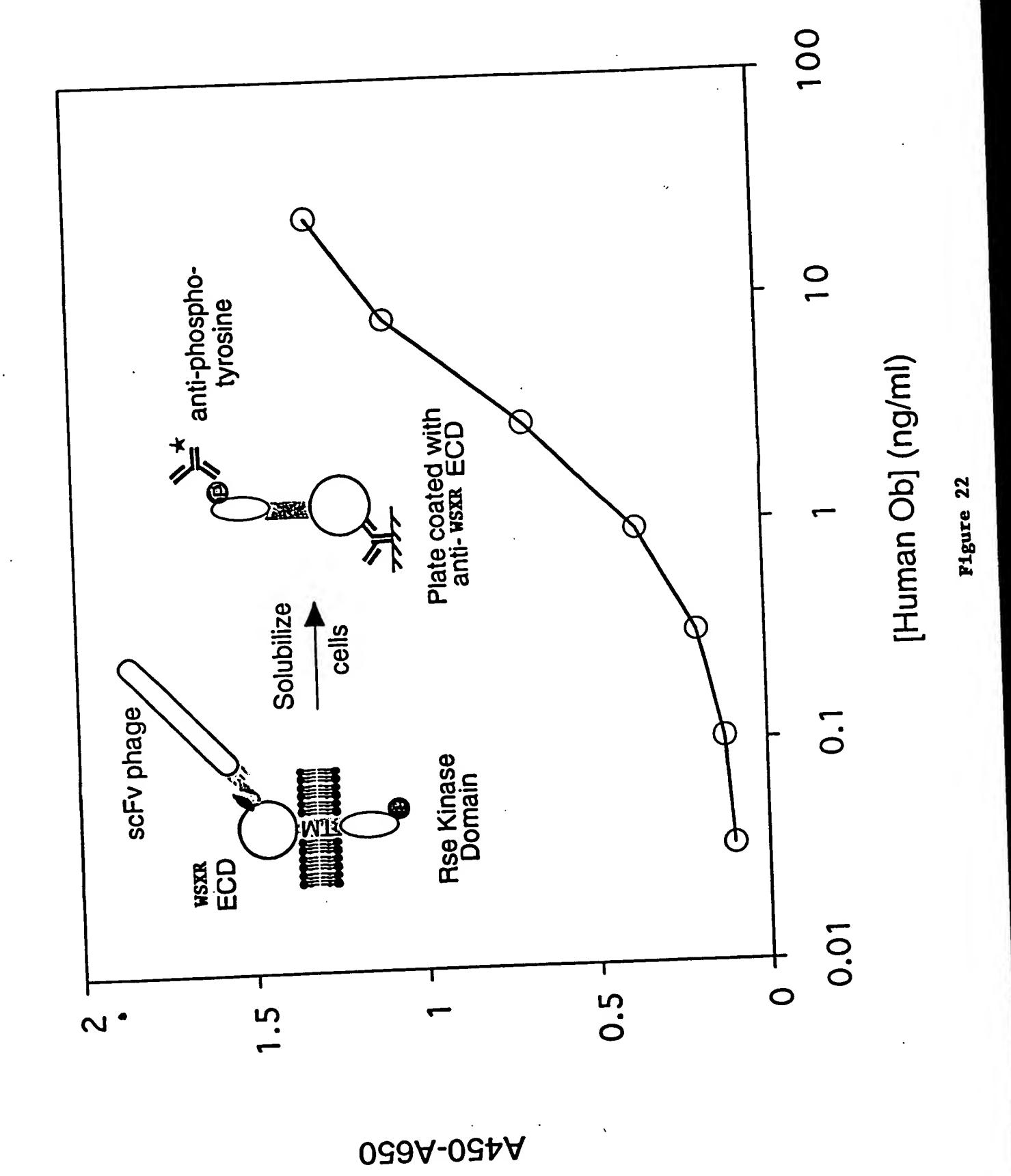
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Figure 20A

... hwsxr

mWSXR

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1 MMCOKFYVVLLHWEFLYVIAALNLAYPISPWKFKUFCGPPNTTDDSFUSP
 51 AGLSKNTSNSNGHYET AVEPKFNSSGTHFSNLSKTTFHCCFRSEODRNCS
 51 AGAPHNASALKGASEA IVEAKFNSSGIYVPELSKTVFHCCFGNEOGONCS
101 LCADNIEGKTFVSTVNSLVFOOIDANWNIOCWLKGDLKLFICYVESLFKN
101 ALTDNTEGKTLASVVKASVFROLGVNWDIECWMKGDLTLFICHMEPLPKN
151 LFRNYNYKVHLLYVLPEVLEDSPLVPQKGSFOMVHCNCSVHECCECLVPV
151 PFKNYDSKVHLLYDLPEVIDDSPLPPLKDSFOTVOCNCSLRG-CECHVPV
   PTAKLNOTILLMCLKITSGGVIFQSPLMSVQPINMVKPDPPLGLHMEITDD
PRAKLNYALLMYLEITSAGVSFQSPLMSLQPMLVVKPDPPLGLHMEVTDD
251 GNLKISWSSPPLVPFPLQYQVKYSENSTTVIREADKIVSATSLLVDSILP
250 GNLKISWDSQTMAPFPLQYQVKYLENS-TIVREAAEIVSATSLLVDSVLP
301 GSSYEVQVRGKALDGPGIWSDWSTPRVFTTODVIFFPPKILTSVGSNVSF
   GSSYEVQVRSKRLOGSGVWSSPOWSSPOVFTTODVVYFPPKILTSVGSNASF
351 HCIYKKENKIIVPSKEIVWWMNLAEKIPOSOYDVVSDHVSKVTFFNLINETK
349 HCIYKNENOIIISSKOIVWWANLAEKIPEIQYSIVSDAVSKVTFSNLKATA
   PRGKFTYDAVYCCNEHECHHRYAELYVIDVNINISCETDGYLTKMTCRWS
   PRGKFTYDAVYCCNE QACHHRYAELYVIDVNINISCETDGYLTKMTCRWS
451 TSTIQSLAESTLQLRYHRSSLYCSDIPSIHPISEPKDCYLQSDGFYECIF
449 PSTIQSLVGSTVQLRYHRRSLYCPDSPSIHPTSEPKNCVLQRDGFYECVF
   OPIFLLSGYTMWIRINHSLGSLDSPPTCVLPDSVVKPLPPSSVKAEIT IN
   QPIFLLSGYTMWIRINHSLGSLDSPPTCVLPDSVVKPLPPSNVKAEITVN
SS1 I |G L L K | I |S W E K P V F P E N N L Q F Q I R Y G L S G K E | V |Q W K | M Y |E V | Y |D A K S K S | V |S L | P | V |
549 TGLLKVSWEKPVFPENNLQFQIRYGLSGKEIQWKTHEVFDAKSKSASLLV
601 POLCAVYAVOVRCKRLDGLGYWSNWSNPAYTVVMDIKVPMRGPEFWRIIN
599 SDLCAVYVVQVRCRRLDGLGYWSNWSSPAYTLVMDVKVPMRGPEFWRKMD
452 GDT MKKEKNVTLLWKPLMKNDSLCSVORYVI NHHTISCHGTWSEDVGNHTIK
649 GOVTKKERNVTLLWKPLITKNOSLCSVARYVVKHRIJAHNGTWSEDVGNRIJN
701 FITTLWTEQAHTVTVLAINSIGASVANFNLTFSWPWSKVNIVOSLSAYPLN
699 LIFLWTEPAHTVTVLAVNSLGASLVNFNLTFSWPMSKVSAVESLSAYPLS
751 SSCVIVSWILSPSDYKLMYFILEWKNLNEDGEIKWLRISSSVKKYYIHDH
749 SSCVILSWTLSPDDYSLLYLVIEWKILNEDDGMKWLRIPSNVKKFYIHDN
601 FIPIEKYOFSLYPIFMEGVGKPKIINSFTODDDIEKHOSDAGLYVIVPVII
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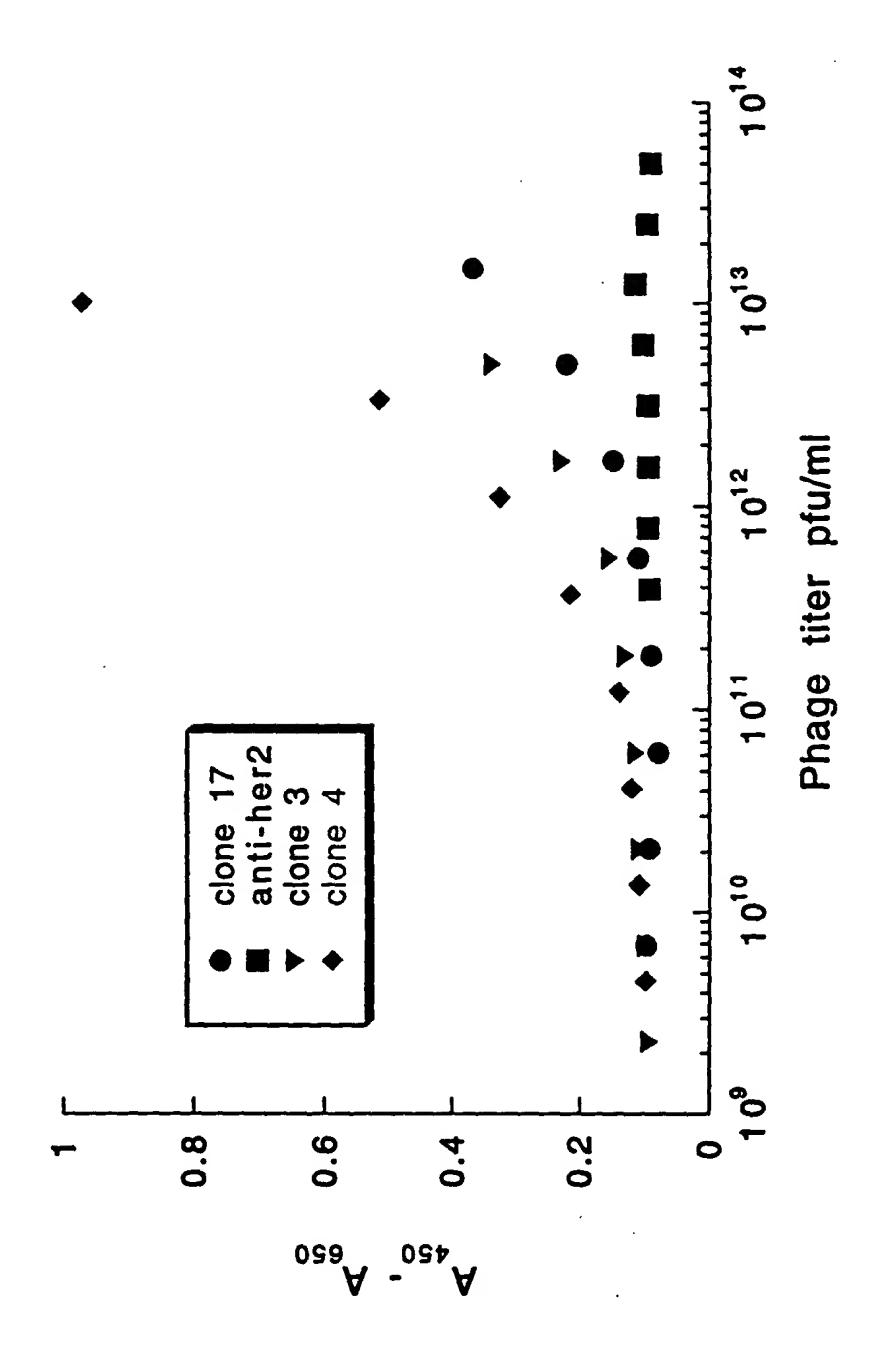


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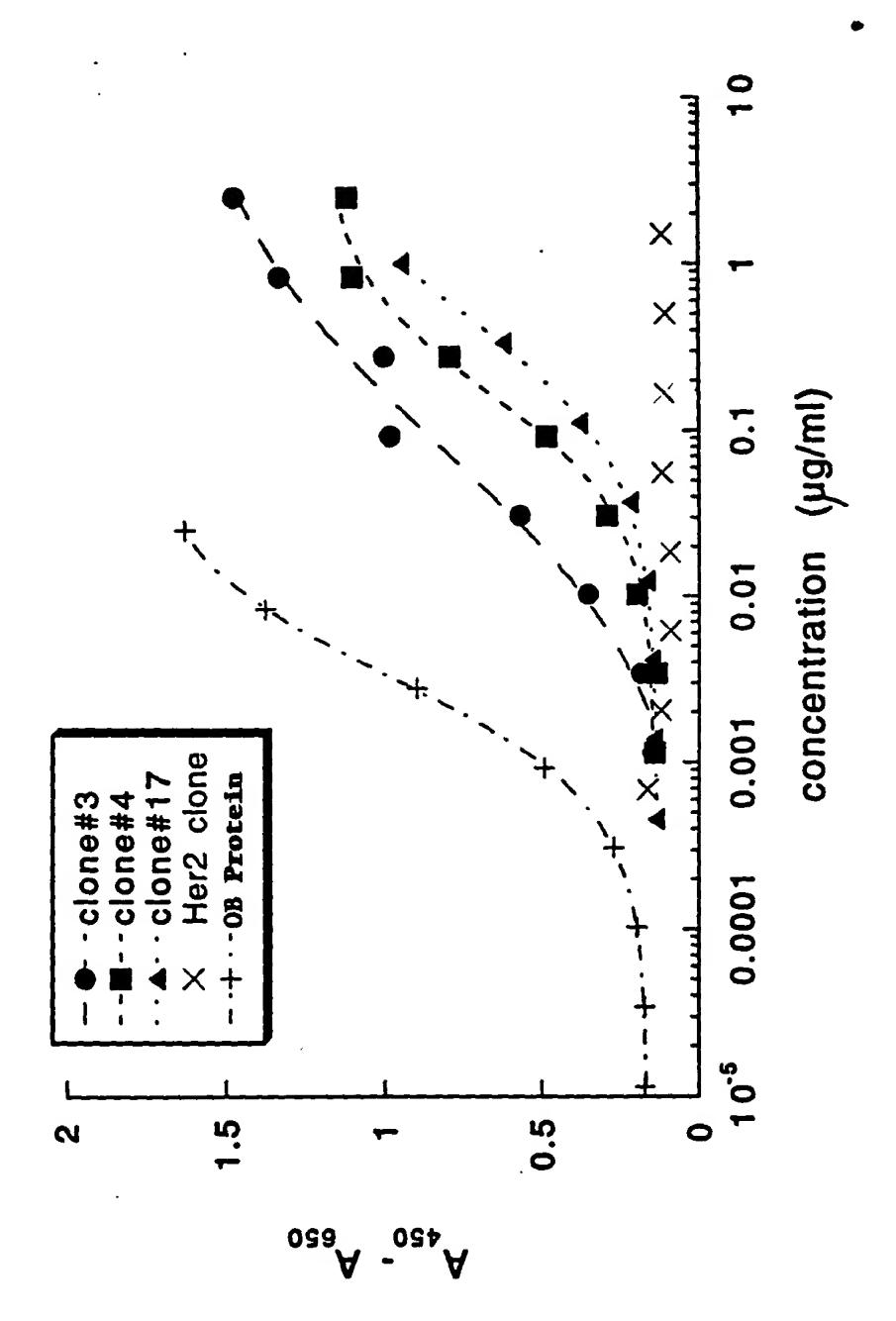


Figure 24

_	1 QVRLQQSGGGLVQPGRSLRLSCAASGFTFDDYAMHWVRQAPGKGLEWVSG
17.scfv	1 EVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMYWVRQAPGQGLEWMGW
3.scfv	1 EVQLVQSGAEVKKPGASTKUSGG 1 EVQLVQSGAEVKKPGESLKISCQGSGFTFS <u>SYKMN</u> WVRQAPGKGLEWMGG
4.scfv	1 EVQLVQSGAEVRRFGESERCE CDR H1
	51 MTWNSGSIGYADSVKGRFTISRDNAKNSLYLOMNSLRAEDTAVYYCAREP
17.scfv	51 MTWNSGSIGYADSYNGRF11SRDMSTATEMENTS 51 INPNSGSTNYAOKFOGRVTMTRDTSIGTAYMELSRLSSDDTAVYYCARDR
3.scfv	51 INPNSGTNYAOKFOGRVIMIRDISIONALISILRSEDTAVYYCARDR
4.scfv	51 <u>IIPIFGTANYAOKFOG</u> RVTITADESTSTAYMELSSLRSEDTAVYYCARDR
	CDR H2
17.scfv	101 HNTDAFDIWGRGTLVTVSSGGGGGGGGGGGGGGGDVVMTQSP
3.scfv	101 YYGSSAYHRGSYYMDYWGRGTLVTVSSGGGGTGGGGGGGGGGGS-SELTQDP
4.scfv	101 <u>VVVPATSLRGGMDV</u> WGQGTTVTVSSGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
	CDR H3
17.scfv	143 SFLSAFVGDTITITCRASOGIYNYLAWYQQKPGKAPKLLIYAASTLO
3.scfv	150 A-VSVALGQTVRITCOGDSLRSY-YASWYQQKPGQAPVLVIYGKNNRP
4.scfv	149 S-VSGSPGQSITISC <u>TG<i>TSSDVGGYNYVS</i>WYQQHPGKAPKLMIY<i>EGS</i>RRE</u>
	CDR L1
17.scfv	190 SGVPSRFSGSGSGTEFTLTISSLQPEDFGTYYCOOLISYPLTFGGGTK
3.scfv	196 SGIPDRFSGSSSGNTASLTITGAQAEDEADYYCNSRDSSGNHVVFGGGTK
4.scfv	198 SGVSNRFSGSKSGSTASLTISGLQAEDEADYYCSSYTTRSTR-VFGGGTK
4.5017	CDR L3
4 M foo	238 VEIK
17.scfv	246 LTVL
3.scfv	
4.scfv	247 LTVL